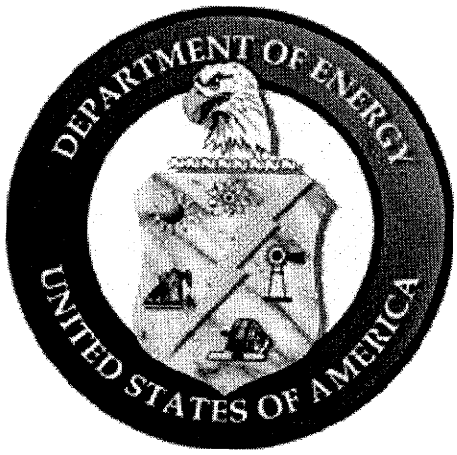
INTEGRATED SAFETY MANAGEMENT SYSTEM COMBINED PHASE I AND II VERIFICATION

for

East Tennessee Mechanical Contractors, Inc.

FINAL REPORT



August 2000

Combined Phase I and II
Integrated Safety Management System Verification
for East Tennessee Mechanical Contractors, Inc.

Final Report Approval

Martin McBride: Martin McBride **Date:** 9/27/00
Verification Team Leader

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List of Acronyms

AMUES	Assistant Manager for Uranium & Engineering Services
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
CRAD	Criteria Review and Approach Document
DEAR	DOE Acquisition Regulation
DOE	Department of Energy
DOE-ORO	Oak Ridge Operations
DOE-ORO FRAM	ORO M 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS
DOT	Department of Transportation
ES&H	Environment, Safety, and Health
ETMC	East Tennessee Mechanical Contractors, Inc.
HAZ	Hazards Identification and Standards Selection
ISMS	Integrated Safety Management System
JCI	Johnson Controls, Inc.
JSA	Job Safety Analysis
LMES	Lockheed Martin Energy Systems, Inc.
MG	Business and Management
OP	Operations
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
QA	Quality Assurance
SME	Subject Matter Expert (team members)
S/RID	Standards/Requirements Identification Document
T&Q	Training and Qualifications

EXECUTIVE SUMMARY

East Tennessee Mechanical Contractors, Inc. (ETMC) is a Department of Energy Oak Ridge Operations (DOE-ORO) prime contractor with responsibility for operating two motor vehicle maintenance and repair shops and a roads and grounds maintenance facility. Their facilities are located in the east end of the Oak Ridge and in the west end of the Y-12 Plant.

This verification examined the conduct of ETMC activities and DOE-ORO activities associated with the ETMC contract relative to the Department's Integrated Safety Management System (ISMS) policies and requirements. During this review, a multidisciplined team examined the ETMC *Integrated Safety Management Plan (ISMP)*, dated June 28, 2000, reviewed other appropriate ISMS documentation; interviewed ETMC and DOE-ORO personnel, and observed ongoing work within the facilities during the first two weeks of August 2000. The team members compared their observations against the verification objectives and criteria documented in the Verification Plan. The objectives and criteria were based upon those listed in DOE-HDBK-3027-99, INTEGRATED SAFETY MANAGEMENT SYSTEMS (ISMS) VERIFICATION TEAM LEADER'S HANDBOOK, dated June 1999.

Overall, the team observed that ETMC has integrated Environment, Safety, and Health (ES&H) activities into its daily business and operations and that safety is a strong value within the company. This value is an expected attribute in a DOE contractor, but it was particularly noted within ETMC's management and personnel. This has had a demonstrated impact on ETMC's safety statistics. ETMC has not had a reportable accident in the last several years.

However, the team also determined that 5 of the 29 objectives relating to ETMC's and DOE-ORO's activities were not fully met. The team concluded that action on the eight key "Opportunities for Improvement" identified in this report would satisfy the outstanding objectives, resulting in a satisfactory ISMS description document and satisfactory evidence of ISMS implementation. Five of the eight key Opportunities for Improvement required action from ETMC, and ETMC has successfully completed the actions and closed the associated Opportunities for Improvement. Three key Opportunities for Improvement required action from the Assistant Manager for Uranium & Engineering Services (AMUES), and those Opportunities for Improvement have been successfully closed. Four additional Opportunities for Improvement are discussed in the report as longer-term improvement opportunities. See the table contained in Section 6.1.

RECOMMENDATION

The verification team for the Combined Phase I and II ISMS Verification for ETMC recommends that the DOE-ORO Manager should approve ETMC's ISMS description and concur with the status of ETMC's implementation of its ISMS.

Integrated Safety Management System Combined Phase I and II Verification
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1.0 INTRODUCTION

DOE Policy 450.4, SAFETY MANAGEMENT SYSTEM POLICY, and DEAR 970.5204-2, which are contained in the prime contract between DOE-ORO and ETMC, require that an ISMS be institutionalized in each major prime contract in the DOE complex. The purpose of such a system is to ensure that work is conducted efficiently and in a manner that ensures protection of the worker, the public, the environment, and the facility. ETMC documented its ISMS in *Integrated Safety Management Plan (ISMP)*, dated June 28, 2000.

2.0 PURPOSE

The Combined Phase I and II Verification of the ETMC ISMS was conducted to verify that the system fulfills the expectations of the DOE-ORO Manager and meets the requirements of the ISM DEAR clause and the DOE Policy for Safety Management Systems and determine whether it has been adequately implemented.

The purpose of the ETMC verification was to:

- Provide a recommendation to the DOE-ORO Manager on the adequacy of the ETMC ISMS description and a report summarizing the results of the Phase I and II verification. A copy of the report will be furnished to the COR and the AMUES. The team's recommendation addressed the adequacy of *Integrated Safety Management Plan (ISMP)*, dated June 28, 2000.

- Provide a report to the DOE-ORO Manager, with a copy to the COR and AMUES, identifying the Opportunities for Improvement related to ETMC's ISMS description or in ETMC's implementation thereof and any recommended followup actions. The report also includes recommended actions for DOE-ORO.

3.0 SCOPE

ETMC is responsible for operating and maintaining two motor vehicle maintenance and repair shops and a roads and grounds maintenance facility. The company's facilities are designated as low hazard, non-nuclear facilities.

The scope of the ETMC Combined Phase I and II ISMS Verification addressed all work performed for DOE-ORO. The scope included a review of ETMC's business practices; management and organization; hazard identification and standards; project activities (both self-performed and subcontracted); ES&H functional areas; and DOE interfaces. The Phase I portion of verification determined the adequacy of the ETMC ISMS description, including a review of the procedures, policies, and manuals of practice used to implement safety management. The Phase II portion of the verification also determined if the ETMC ISMS is adequately implemented. Due to the limited time frame for this verification, both phases were performed simultaneously.

4.0 PREREQUISITES

A revised ETMC ISMS description was submitted to DOE-ORO in June 2000. Additional prerequisites for the verification were as follows:

- ETMC declared its readiness for the ISMS verification in its letter to the COR from Tom McWilliams, subject: "Integrated Safety Management Systems Verification," dated August 3, 2000.

- The DOE-ORO Manager appointed Martin H. McBride, Nuclear Safety Division Director, as Team Leader for the ISMS verification in her memorandum dated June 9, 2000.

- The ISMS Verification Plan was prepared by the Team Leader, concurred in by the AMUES, and approved by the DOE-ORO Manager on August 2, 2000.

5.0 OVERALL APPROACH

5.1 Review Approach

The ISMS verification was a documented management assessment conducted using a multidisciplined team of specialists led by a DOE-ORO technical team leader. The approach for the ISMS verification of ETMC was principally an assessment of management systems and processes and their implementation. The verification focused on the following areas:

- Business and Management (MG),
- Hazards Identification and Standards Selection (HAZ),
- Operations (OP),
- Subject Matter Experts (SME) – Environmental Compliance, Fire Protection, Radiation Protection, Training and Qualification (T&Q), and Transportation.

MG – The team member assigned to this functional area was tasked to review ETMC's processes for defining work; resource definition, allocation, and prioritization; and translation of ES&H requirements to subcontracts and lower-tier subcontracts, if applicable. The team member focused on the business-related activities and ISMS functions and principles performed by ETMC, such as procurement, finance, and planning and controls. This team member also provided input on whether the ETMC ISMS description is consistent with DOE Policies, the ISM DEAR clause, and guidance from the DOE-ORO Manager. This team member determined whether ETMC has mechanisms in place for integrated implementation of the ISMS, roles and responsibilities are clearly defined and maintained, interfaces with other organizations are established and effective, line management has responsibility for safety, and processes are in place for feedback and continuous improvement. This team member also determined if DOE-ORO has implemented processes that interface effectively with ETMC, technical competence is commensurate with assigned responsibilities, feedback and continuous improvement mechanisms are in place, and line oversight of ETMC is conducted.

HAZ and OP – The HAZ/OP team member was tasked to review (a) the DOE and ETMC processes for ISM relating to hazards analysis, (b) the processes related to the identification of safety standards/requirements, and (c) tailoring of controls to the work being performed. This team member reviewed line management responsibilities and feedback as they relate to hazards identification and standards selection. This team member was also tasked to review the adequacy of the ETMC's implementation of its ISMS. This team member performed several vertical slices of ETMC's project work to assess the effectiveness of the ISMS program. An outside expert in industrial hygiene was also consulted during the verification to supplement the team's expertise.

SME – The SME team members were tasked to review selected ES&H functional areas included in the scope of the ISMS verification. The areas covered by the SMEs were environmental compliance, fire protection, radiation protection, training and qualification, and transportation.

5.2 Sequence of Activities

The ISMS Phase I/II Verification Team was established to conduct the verification. The Team Roster is contained in Appendix A. Team qualification forms are included in the Verification Plan. The team developed Criteria Review and Approach Documents (CRADs) to guide the review. The CRADs are contained in the Verification Plan.

- Team Meeting, July 18, 2000

  The Team Leader held a meeting of the team to discuss tailoring the CRADs to the scope of the verification, the strategy for the verification, and the unusual aspects of the logistics for this verification.

- Inbrief, July 18, 2000

  An inbrief was held during which the team visited ETMC's facilities and learned about the activities performed at each facility. During this meeting, ETMC discussed its ISMS, identified key personnel, and answered questions from the verification team.

- Phase I/II, August 7-11, 2000

  One week was devoted to verification activities, completion of the Phase I review, performance of the Phase II review, and generation of the assessment forms. Due to the limited time frame of the verification, several team members received permission to begin some of their activities in advance of the actual start date for the verification.

- Outbrief, August 15, 2000

  The outbrief was held in the Federal Office Building. The Team Leader summarized the results of the verification and the recommendation that the team would make to the DOE-ORO Manager. Comments from the factual accuracy review of the draft Final Report were also resolved at this meeting.

- Opportunity for Improvement Closure Activities

  Based on discussions with ETMC and AMUES personnel at the outbrief, it was determined that key Opportunities for Improvement had to be successfully closed before the team could recommend approval to the DOE-ORO Manager. ETMC successfully closed its key Opportunities for Improvement by August 31, 2000. The AMUES organization successfully closed its key Opportunities for Improvement by September 25, 2000.

6.0 ASSESSMENT OF THE ETMC ISMS DESCRIPTION AND IMPLEMENTATION

Key OFI or Longer Term	ETMC or DOE-ORO	Identifier	Opportunities for Improvement
Longer Term	**ETMC**	**HAZ.2-1-OFI.1** & HAZ.2-2, SME-ENV.1-1, SME-ENV.1-2, SME-ENV.1-3	ETMC's procedures should be updated to reflect changes caused by revisions to DE-AC05-97OR22416, "Statement of Work," effective May 31, 2000, and to meet the requirements of the ETMC *Integrated Safety Management Plan (ISMP)*. The present ETMC Standards/Requirements Identification Document (S/RID), Work Smart Standards set, and procedures reflect a scope of work that includes the Water Treatment Plant. Existing procedures are not consistently effective in ensuring compliance with industrial hygiene, industrial safety, fire protection, and environmental requirements. At present, there is not a mechanism in place to cause this update to happen.
Key	**DOE-ORO AMUES**	**HAZ.3-3-OFI.1**	The AMUES should develop a mechanism that provides for a detailed description of COR responsibilities in the development and implementation of an ES&H oversight program that addresses and supports the five key elements of ISM. **Note:** This Opportunity for Improvement was satisfactorily closed before the verification was completed.
Key	**DOE-ORO AMUES**	**MG.1-4-OFI.1**	The UES organization, in negotiation with ETMC, must develop and implement performance measures for monitoring and assessing contractor performance in ES&H areas as required by the ISM DEAR clause. **Note:** This Opportunity for Improvement was satisfactorily closed before the verification was completed.
Longer Term	**DOE-ORO AMUES**	**MG.4-1-OFI.1**	The UES organization should establish a process for transitioning COR ES&H responsibilities from a current COR to a future COR. The transition process should allow for the future COR to be fully capable of functioning as the COR prior to assuming his/her COR duties.

Key	**DOE-ORO AMUES**	**MG.4-4-OFI.2**	The UES organization should develop procedures that define how the COR will perform his/her responsibilities for ensuring the contractor's ISMS is implemented. **Note:** This Opportunity for Improvement was satisfactorily closed before the verification was completed.
Longer Term	**DOE-ORO AMUES**	**MG.4-5-OFI.2**	The UES organization should establish a process for verifying implementation of ETMC's Quality Assurance (QA) Program.
Key	**ETMC**	**MG.6-3-OFI.1**	The ETMC ISMS program description should be revised to require the description to be maintained current and to provide the annual update information. A schedule should be provided to the COR for completion of the remaining open items in the "Gap Analysis." **Note:** This Opportunity for Improvement was satisfactorily closed before the verification was completed.
Key	**ETMC**	**MG.11-1-OFI.**	ETMC should perform a review of existing procedures and standards to determine whether procedures are still being implemented and requirements are still being met, considering recent changes in the contract scope. **Note:** This Opportunity for Improvement was satisfactorily closed before the verification was completed.
Key	**ETMC**	**SME-ENV.1-1-OFI.1** & SME-ENV.1-2	ETMC's procedures identify environmental compliance requirements, but they do not specify or discuss documentation that would ensure that the requirements are flowing down to the working level. ETMC should revise its procedures to delineate the processes or mechanisms to be used to ensure that environmental compliance requirements are being met. **Note:** This Opportunity for Improvement was satisfactorily closed before the verification was completed.

Key	**ETMC**	**SME-ENV.1-3-OFI.2**	Worker knowledge of environmental compliance requirements is critical to ensure compliance. Work should not be authorized until it can be verified that workers possess the necessary environmental compliance knowledge. Current ETMC procedures, manuals, and work control documents do not specify or discuss the documentation required to verify a worker's environmental compliance knowledge or to authorize work. ETMC should revise procedures to include a requirement to document the worker's readiness and ETMC management's authorization to perform work. **Note:** This Opportunity for Improvement was satisfactorily closed before the verification was completed.
Key	**ETMC**	**SME-ENV.2-4-OFI.1**	Although a compliance inspection was not performed as a part of this verification, two compliance issues were noted. ETMC should evaluate alternative strategies to monitor environmental compliance to ensure that personnel are properly implementing the environmental compliance requirements. **Note:** This Opportunity for Improvement was satisfactorily closed before the verification was completed.
Longer Term	**ETMC**	**SME-ENV.2-5-OFI.2**	In addition to correcting the noncompliances that are identified, ETMC should improve implementation of its lessons learned process. This process should be formal and documented. ETMC should revise its procedures to ensure implementation and documentation of the feedback and continuous improvement process in the environmental compliance area.

7.0 RECOMMENDATION

The verification team for the Combined Phase I and II ISMS Verification for ETMC recommends that the DOE-ORO Manager should approve ETMC's ISMS description and concur with the status of ETMC's implementation of its ISMS.

8.0 LESSONS LEARNED

There were no new lessons learned from this verification.

APPENDIX A: VERIFICATION TEAM ROSTER

ETMC ISMS Verification
Team Roster

Verification Title	Name	Organization
Team Leader	Martin McBride	DOE-ORO Nuclear Safety Division
Coordinator	Karen Brown	Informatics Corporation
Team Member – Hazard Identification* and Standard Selection; Operations	Jim Campbell	DOE-ORO Technical Support Division
Team Member –Radiation Protection Subject Matter Expert	Mike Henderson	DOE-ORO Nuclear Safety Division
Team Member – Fire Protection Subject Matter Expert	Jim Landmesser	DOE-ORO Technical Support Division
Team Member – Environmental Protection Subject Matter Expert	Richard Martin	DOE-ORO Technical Support Division
Team Member – Business, DOE, and Management	Teresa Robbins	DOE-ORO Nuclear Safety Division
Team Member – Training & Qualification, Transportation Subject Matter Expert	Doug Stancell	DOE-ORO Technical Support Division

* Additional input on Hazard Identification and Standard Selection was provided by a DOE-ORO Industrial Hygiene subject matter expert.

APPENDIX B: VERIFICATION ASSESSMENT FORMS

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I Assessment Form

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.1 DATE: September 25, 2000

OBJECTIVE

Hazards associated with the work are identified, analyzed, and categorized. (CE I-3, CE I-9)

Criteria and Discussion of Results

HAZ.1-1 **ETMC's and DOE's procedures require identification, analysis, and categorization of all hazards associated with the site. ETMC's ISMS procedures for analysis of hazards reflect accepted rigor and methodology. The resulting hazards are utilized in selection of standards included in the contract as List A/List B (i.e., Work Smart Standards set, S/RID, or List of Directives).**

Discussion of Results – DOE contract No. DE-AC05 - 97OR22416, *East Tennessee Mechanical Contractors, Inc.*, Section C.1 "Statement of Work," defines the scope and location of work to be performed by ETMC. Section GC-6, "Environment, Safety and Health (ES&H)," provides the ES&H requirements for the work to be performed under the contract. Included is the requirement for the development and implementation of an ISMS program that provides for identification, analysis, and categorization of all hazards associated with the site. In addition, Section GC-6.I.(1)-(6) also lists the major ES&H regulations and requirements applicable to this work. Hazards are identified in the ETMC Work Smart Standards set and the applicable standards and regulations as shown in the ETMC S/RID are adopted for hazard mitigation.

The hazards identified are appropriate for the previous scope of work that included the Water Treatment Plant, but they do not accurately reflect the hazards in the present scope of work to be performed by ETMC. See the HAZ.2 form, Opportunity for Improvement HAZ.2-1-OFI.1, on tailoring.

The criterion was met.

Record Review

- DOE Contract DE-AC05-97OR22416, *East Tennessee Mechanical Contractors, Inc.*:
  – Section C.1, "ORO CO1 Performance-Based Statement of Work Alternate I (May 1997)"
  – Section GC-6, "Environment Safety and Health (ES&H)"
- ETMC Work Smart Standards set, "Necessary and Sufficient Conditions for Heavy Equipment Shop"
- ETMC Work Smart Standards set, "Necessary and Sufficient Conditions for Light Vehicle Shop"
- ETMC Work Smart Standards set, "Necessary and Sufficient Conditions for Roads and Grounds Maintenance"
- *Consolidated Standard/Requirements Identification Document*, Revision 1, July 22, 1997

ISMS VERIFICATION ASSESSMENT FORM
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Phase I Assessment Form

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.1 DATE: September 25, 2000

Interviews

ETMC ES&H/QA Manager

Conclusion

The objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Martin McBride (for) Jim Campbell Date: 9/25/00	Team Leader: Martin McBride Martin McBride Date: 9/25/00

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FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.2 DATE: August 13, 2000

OBJECTIVE

Applicable standards and requirements are identified and agreed upon. (CE I-4, CE I-9)

Criteria and Discussion of Results

HAZ.2-1 **ETMC's procedures ensure controls are tailored to the hazards associated with the work or operations to be authorized.**

Discussion of Results – ETMC's *Integrated Safety Management Plan (ISMP)*, *Work Control System*, and *JCI Job Safety Analysis Procedure* require the performance of a hazard analysis on all work requests for nonroutine work where safety requirements are identified by the requestor. Categories of hazards are identified by the requestor, and the ETMC ES&H/QA Manager performs a Job Safety Analysis (JSA) for all high priority work tasks or activities as well as some medium priority tasks that are requested. The JSA requires the task to be broken down into steps, and the hazards associated with each step are identified. Controls are then developed for mitigation of each hazard based on standards and requirements for the hazard. The ES&H/QA Manager reviews all medium priority tasks to determine if the hazards present in the work area require a JSA. However, the above procedures reflect a contractual scope of work that includes the Water Treatment Plant and should be revised to meet requirements of the present scope of work.

The criterion was not met.

HAZ.2-2 **ETMC's procedures ensure the identified controls, standards, and requirements are agreed upon and approved prior to the commencement of the operations or work being authorized.**

Discussion of Results – Through interviews and review of the *Work Control System* and the *JCI Job Safety Analysis Procedure*, work is not authorized to begin on a work request until the approval signatures are obtained as shown by the "Work Request Approval Matrix." If hazards are identified on the "Work Request Form" or if a JSA is required for the work request, then controls must be specified for each hazard prior to the approval signatures. Controls are based on standards and requirements in the Work Smart Standards set and S/RID, which are located in the contract and are required for approval of the contract.

The criterion was met.

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.2 DATE: August 13, 2000

HAZ.2-3 **DOE's contracting procedures require that the requirements of applicable Federal, State, and local regulations (List A) and the requirements of DOE directives (List B) are appended to the contract.**

Discussion of Results – Requirements for DOE Directives and Federal, State and local regulations are contained in DOE contract No. DE-AC05-97OR22416, Section GC-6, "Environment, Safety and Health (ES&H)."

The criterion was met.

Record Review

- *Integrated Safety Management Plan (ISMP)*, June 28, 2000
- JCI-OPS-6.0, *Work Control System*, May 10, 1996
- *JCI Job Safety Analysis Procedure*, June 13, 1995
- DOE Contract No. DE-AC05-97OR22416, Section GC-6, "Environment, Safety and Health (ES&H)"
- Industrial hygiene verification of ETMC's ISMS by a DOE-ORO Industrial Hygienist, August 1, 2000

Interviews

- ETMC ES&H/QA Manager
- ETMC Operations Manager

Conclusion

The objective was met.

Opportunities for Improvement

HAZ.2-1-OFI.1 & HAZ.2-2, SME-ENV.1-1, SME-ENV.1-2, SME-ENV.1-3 ETMC's procedures should be updated to reflect changes caused by revisions to DE-AC05-97OR22416, "Statement of Work," effective May 31, 2000, and to meet the requirements of the ETMC *Integrated Safety Management Plan (ISMP)*. The present ETMC S/RID, Work Smart Standards set, and procedures reflect a scope of work that includes the Water Treatment Plant. Existing procedures are not consistently effective in ensuring compliance with industrial hygiene, industrial safety, fire protection, and environmental requirements. At present, there is not a mechanism in place to cause this update to happen.

Noteworthy Practices

None.

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FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.2 DATE: August 13, 2000

Team Member: James S. Campbell Jim Campbell Date: 9/8/2000	Team Leader: Martin M. McBride Martin McBride Date: 9/25/00

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FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.3 DATE: September 9, 2000

OBJECTIVE

ETMC's procedures ensure that ETMC personnel responsible for analyzing the hazards and developing, reviewing, or implementing the controls, have competence that is commensurate with their responsibilities. DOE's roles and responsibilities are clearly defined to ensure appropriate oversight and review of the analysis of hazards and the identification of controls. Personnel shall posses the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities. (CE I-7, CE I-8, CE I-9)

Criteria and Discussion of Results

HAZ.3-1 **ETMC's procedures have clearly defined roles and responsibilities for personnel assigned to oversee, review, approve the analysis of hazards, and establish controls associated with facilities and activities.**

Discussion of Results – Roles and responsibilities for the ETMC ES&H/QA Manager are clearly defined in the ETMC *Integrated Safety Management Plan (ISMP)*, Appendix A, "Functions, Responsibilities, and Authorities." These responsibilities include overseeing, reviewing, and approving identification and analysis of hazards and the development and implementation of controls for work activities at ETMC. Roles and responsibilities for the ES&H/QA Manager are further defined in a position description under the job title "Environment, Safety & Health Manager/Quality Assurance."

The criterion was met.

HAZ.3-2 **ETMC's procedures require that personnel responsible for analyzing hazards and identification of adequate controls have competence that is commensurate with their responsibilities.**

Discussion of Results – An interview with the incumbent ETMC ES&H/QA Manager and review of his professional resume shows 26 years of management and supervisory experience in industrial safety, construction safety, industrial hygiene, air quality control, health physics, hazardous waste operations, emergency response planning, aviation, environmental, security, QA, ergonomics, and safety and health.

The incumbent has managed hazardous waste remediation and restoration programs, developed corporate ES&H programs, performed hazard assessments for highly hazardous chemicals, prepared and modified facility permits, and conducted numerous safety inspections and audits. He has extensive experience in developing and administering Occupational Health and Safety Administration (OSHA) and Environmental Protection Agency training programs.

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.3 DATE: September 9, 2000

The incumbent has a Bachelor of Science and is a Certified Safety Professional, Certified Hazardous Materials Supervisor, and Certified Safety and Security Director. He is a member of the American Society of Safety Engineers and International Society of Air Safety Investigators.

This criterion was met.

HAZ.3-3

DOE's procedures have clearly defined roles and responsibilities for personnel assigned to oversee, review, and approve the analysis of hazards and controls associated with facilities and activities.

Discussion of Results – The ISM DEAR clause, 48 Code of Federal Regulations (CFR) 970.2303-2(a), establishes the requirement for the integration of ES&H into work planning and execution into the contract. DOE-ORO Manual 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS (DOE-ORO FRAM), Appendix B, "Detailed Functional Responsibility Assignments," assigns responsibilities to DOE CORs to perform the following:

- direct the contractor to analyze hazards in accordance with contractual requirements;
- selectively verify and validate the contractor's analysis of hazards; and
- before work is performed, assure that hazards are analyzed and an agreed upon set of ES&H standards and regulations and requirements are established.

DOE-ORO Order 450, Chapter IV, paragraph 4d, assigns to CORs the responsibility for developing and maintaining an ES&H oversight program that addresses the five key elements of ISM. However, there is no evidence of a mechanism or procedure that requires the COR for the ETMC contract to implement the above-assigned responsibilities.

This criterion was not met.

Record Review

- *Integrated Safety Management Plan (ISMP)*, Appendix A, "Functions, Responsibilities, and Authorities," June 28, 2000
- Position description for the ETMC ES&H/QA Manager, July 14, 2000
- Professional resume for the ETMC ES&H/QA Manager
- 48 CFR 970.2303-2(a), *Integration of Environment, Safety, and Health Into Work Planning and Execution*, June 1997

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I Assessment Form

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.3 DATE: September 9, 2000

- DOE-ORO Order 450, Chapter IV, ENVIRONMENT, SAFETY, AND HEALTH (ES&H) OVERSIGHT PROGRAM, December 29, 1999
- DOE-ORO Manual 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS, Appendix B, "Detailed Functional Responsibility Assignments," March 1, 2000
- *Facility Hazards Survey for the East Tennessee Mechanical Contractors (ETMC)*, May 26, 1999
- PFMP-18-TOC, *Operation of Water Treatment Plant and Other Maintenance Services*

Interviews

- DOE-ORO Alternate COR
- ETMC ES&H/QA Manager

Conclusion

The objective was met.

Opportunities for Improvement

HAZ.3-3-OFI.1 The AMUES should develop a mechanism that provides for a detailed description of COR responsibilities in the development and implementation of an ES&H oversight program that addresses and supports the five key elements of ISM.

NOTE: This Opportunity for Improvement was satisfactorily closed before the verification was completed.

Noteworthy Practices

None.

OFI was verified closed by Teresa Robbins on 9/25/00 Teresa Robbins 9/25/00

Team Member: James S. Campbell Jim Campbell Date: 9/8/2000	Team Leader: Martin McBride Martin McBride Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
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Phase II Assessment Form

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.4 DATE: August 13, 2000

OBJECTIVE

The full spectrum of hazards associated with the scope of work is identified, analyzed, and categorized. Those individuals responsible for the analysis of the environmental, health and safety, and worker protection hazards are integrated with personnel assigned to analyze the processes. (CE II-2)

Criteria and Discussion of Results

HAZ.4-1 **Procedures and/or mechanisms are in place and utilized by personnel that describe the interfaces, roles and responsibilities of those personnel who identify and analyze the hazards of the scope of work. Personnel assigned to accomplish those roles are competent to execute those responsibilities.**

Discussion of Results – Hazards for routine shop work are analyzed and delineated in the Work Smart Standards set for the ETMC contract. The interfaces, roles, and responsibilities for personnel performing hazard analyses for nonroutine work projects are described in JCI-OPS-6.0, *Work Control System*, and *JCI Job Safety Analysis*. Hazard analyses for ETMC nonroutine tasks are the responsibility of the ETMC ES&H/QA Manager. Based on information from the resume listed below, the ES&H/QA Manager is competent to execute these responsibilities.

The criterion was met.

Record Review

- JCI-OPS-6.0, *Work Control System*, April 10, 1996
- *JCI Job Safety Analysis Procedure*, October 1996
- Professional resume for the ETMC ES&H/QA Manager

Interviews

ETMC ES&H/QA Manager

Observations of Work

None.

Conclusion

The objective was met.

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.4 DATE: August 13, 2000

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: James S Campbell Jim Campbell	Team Leader: Martin McBride Martin McBride
Date: 9/8/2000	Date: 9/25/00

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FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.5 DATE: August 13, 2000

OBJECTIVE

An integrated process has been established and is utilized to develop controls that mitigate the identified hazards present within a facility or activity. The set of controls ensures that adequate protection of the public, worker, and the environment is established as agreed upon by DOE. These mechanisms demonstrate integration, which merge together at the workplace. (CE II-3)

Criteria and Discussion of Results

HAZ.5-1 **Procedures and/or mechanisms that identify and implement appropriate controls for hazards mitigation within the facility or activity are developed and utilized by workers and approved by line managers. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE.**

Discussion of Results – ETMC procedures and mechanisms have been developed and implemented that identify and implement controls for hazards identified in the "Integrated Facility Management Work Request Checklist" that is provided in JCI-OPS-6.0, *Work Control System*, which is used for nonroutine work. The "Integrated Facility Management Work Request Checklist" is completed for each work request that is initiated, and it is used to determine requirements for special work permits and procedure reviews as well as identification of hazards in the work area and controls required to mitigate the hazards. Procedures have been developed that directly apply to work activities and reference the standards that were approved by DOE. JCI-OPS-6.0 was approved by the Johnson Controls Project Manager on April 10, 1996. Hazards for routine work performed by ETMC are delineated in the Work Smart Standards set. The above procedure and the Work Smart Standards set should be revised to reflect the requirements in the revised Statement of Work. However, the above procedures reflect a contractual scope of work that includes the Water Treatment Plant and should be revised to meet requirements of the present scope of work. See HAZ.2-1-OF.1.

This criterion was not met.

HAZ.5-2 **Standards and requirements are appropriately tailored to the hazards.**

Discussion of Results – The S/RID contains a list of OSHA safety and health standards, safety and health regulations for construction, Environmental Protection Agency requirements from 40 CFR, Department of Transportation (DOT) requirements from 49 CFR, hazardous materials regulations, requirements for construction and operating permits, Tennessee water regulations, National Electric Code, Federal Motor Carrier Safety Regulations, Standard Building Code, DOE Handbooks, DOE Seismic Standards, and DOE Orders. The hazards identified in the Work Smart Standards set reflect the previous scope of work that included the Water Treatment Plant. The standards and

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.5 DATE: August 13, 2000

requirements should be revised to appropriately identify the hazards present in work associated with the revised Statement of Work.

This criterion was met.

Record Review

- Industrial hygiene verification of ETMC's ISMS by a DOE-ORO Industrial Hygienist, August 1, 2000
- *Consolidated Standard/Requirements Identification Document*, Revision 1, July 22, 1997
- Work Smart Standards – "Necessary and Sufficient Standards Requirements for Heavy Equipment Shop," "Facility Maintenance, Light Equipment Shop, and Roads and Grounds Maintenance," May 24, 1996
- JCI-OPS-6.0, *Work Control System*, Revision 1, April 10, 1996.
- JCI *Safety and Health Manual*, January 10, 1995, the following procedures:
  -- Barricade Procedure
  -- Confined Space Entry
  -- Control of Hazardous Energy
  -- Electrical Safety
  -- Emergency Evacuation
  -- Enforcement Procedure
  -- Fire Safety
  -- General Office Safety
  -- Laboratory Safety
  -- Grinders
  -- Guarding Machinery and Equipment
  -- Hazard Communication
  -- Hearing Conservation
  -- Ladders
  -- Material Handling and Storage
  -- Personal Protective Equipment
  -- Report Unsafe Conditions
  -- Respiratory Protection
  -- Safe Handling of Asbestos
  -- Safety Inspections
  -- Use of Compressed Air

Interviews

ETMC ES&H/QA Manager

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.5 DATE: August 13, 2000

Observations of Work

- Industrial Hygiene verification of ETMC's ISMS by a DOE-ORO Industrial Hygienist on August 1, 2000:

  Industrial hygiene programs such as respiratory protection, confined space entry, and hazard communications on the former Johnson Controls, Inc. (JCI), major work areas were formalized from 1991 to 1993. Several industrial hygiene surveys, including noise, carbon monoxide, and asbestos, were performed from 1993 to 1995, and a comprehensive industrial hygiene survey was conducted in 1994. Since then, there have been significant changes to the work environment, including (a) a new contractor (i.e., ETMC), (b) the operation of the Water Treatment Plant has been transferred from DOE-ORO to the City of Oak Ridge, and (c) management and personnel changes have occurred throughout the various work shops. Procedures/programs dealing with the Water Treatment Plant are no longer applicable. It would be appropriate to review and update the existing industrial hygiene programs and procedures to assure that current Work Smart Standards are applied to ETMC shop environments. Appropriate industrial hygiene surveys of the work environment should follow the revisions to existing procedures to assure personnel protection.

- Industrial Safety Walkthroughs of the ETMC Light Vehicle Shop and Heavy Equipment Shop on August 1 and August 4, 2000:

  The walkthroughs were performed to observe the overall level of compliance with the industrial safety requirements in the ETMC Work Smart Standards set and to determine the understanding of ETMC's vehicle and equipment mechanics of the operation of safety equipment applicable to vehicle and equipment repair duties.

  ETMC vehicle and equipment mechanics are able to safely operate the equipment, and they possess a good understanding of safety equipment that present in the Light Vehicle Shop and the Heavy Equipment Shop, such as transmission jacks, floor jacks, hoists, forklifts, eyewash, Personal Protective Equipment (PPE) for hearing and eye protection, PPE for hand and foot protection, the tire changing station for heavy and light vehicle tires, the vehicle exhaust ventilation systems, PPE and ventilation for welding operation, and hazardous material storage cabinets. Exceptions to industrial safety compliance in the ETMC Heavy Equipment Shop were noted in housekeeping, fire extinguisher certification, electrical hazard identification, chains for securing heavy tires at the tire changing station, and storage of sharpened mower blades.

  It would be appropriate to revise the industrial safety and fire protection programs and procedures to ensure that a current Work Smart Standards set is applied to ETMC's work environments.

Conclusion

This objective was met.

FUNCTIONAL AREA Hazards Identification and Standards Selection (HAZ)	OBJECTIVE: HAZ.5 DATE: August 13, 2000

Opportunities for Improvement

None. See HAZ.2-1-OFI.1.

Noteworthy Practices

None.

Team Member: James S. Campbell Jim Campbell Date: 9/8/2000	Team Leader: Martin McBride Martin McBride Date: 9/25/00

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FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.1 DATE: September 21, 2000

OBJECTIVE

DOE-ORO's and ETMC's procedures ensure that missions are translated into work, expectations are set, tasks are identified and prioritized, and resources are allocated. (CE I-2, CE I-6, CE I-7, CE I-9)

Criteria and Discussion of Results

MG.1-1

DOE's guidance for translating mission into work includes delineating its plan of work. This means the scope, schedule, and funding allocations for each fiscal year.

Discussion of Results – Labor rates, man hours, and scope of work were negotiated into the contract and have remain unchanged throughout the term of the contract. Existing work and new tasks are authorized through Task Orders from the COR. Schedule is not specifically discussed in the contract due to the contract structure as a time and materials contract.

This criterion was met.

MG.1-2

DOE's guidance for setting expectations for the contractor is established through contracts and regulations. These contracts and regulations provide guidance on expected performance, set goals and priorities, and allocate resources.

Discussion of Results – The ETMC contract requires work identified in the Statement of Work to be performed in accordance with applicable safety and health requirements and within the budget authorized by DOE. Performance measures for safety and health and programmatic goals have not been defined for the ETMC contract. Priorities are provided through the Contract Technical Monitor for the fleet management portion of the contract and through the COR for the roads and grounds portion of the contract.

This criterion was met.

MG.1-3.

DOE's procedures ensure that the contractor adequately prioritizes work to ensure that mission and safety expectations are met within available budget and resources.

Discussion of Results – The ETMC contract requires work identified in the Statement of Work to be performed in accordance with applicable safety and health requirements and within the budget authorized by DOE.

This criterion was met.

MG.1-4

ETMC's procedures translate mission expectations from DOE into tasks that permit identification of resource requirements, relative prioritization, and performance measures that are established consistent with DOE's requirements.

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.1 DATE: September 21, 2000

Discussion of Results – ETMC has procedures for performing work authorized by DOE in the ETMC contract Statement of Work. Resource requirements are identified through the budget and planning processes. ETMC does not have procedures for these activities; however, for a company of this size, procedures for translating mission expectations into tasks are not necessary. Performance measures have not been established for the ETMC contract as required by the ISM DEAR clause.

This criterion was not met.

MG.1-5

DOE's and ETMC's procedures provide for DOE approval of proposed tasks, change control of approved tasks, and prioritization. Work planning procedures provide for feedback and continuous improvement.

Discussion of Results – Under the June 5, 2000, modification to the ETMC contract, any nonroutine work must be authorized through a Task Order issued by the COR. To date, no Task Orders have been issued for the ETMC contract. The Contract Technical Monitor provides day to day programmatic oversight of the ETMC project for fleet management at the Light Vehicle Shop and the Heavy Equipment Shop. Prioritization is provided by the Contract Technical Monitor. The JCI procedure *Work Control System* contains a provision for post-job briefings for feedback and continuous improvement. This procedure only applies to maintenance activities, which ETMC is not currently performing.

The UES organization does not have procedures separate from the ETMC contract for work planning approval, change control, or prioritization. These activities are performed by the COR and Contract Technical Monitor in accordance with the contract requirements.

This criterion was met.

MG.1-6

ETMC's procedures provide for flowdown of DEAR 970.5204-2, *Integration of Environment, Safety and Health into Work Planning and Execution*, requirements into subcontracts involving complex or hazardous work.

Discussion of Results – The ETMC contract includes the full ISM DEAR clause, which requires the flowdown of DEAR 970.5204-2 requirements into subcontracts. In addition, the *ETMC Oak Ridge Operations ISMS Questionnaire* is used to assist ETMC in verifying that their subcontractors have an adequate ISMS program.

This criterion was met.

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.1 DATE: September 21, 2000

Record Review

- ETMC contract, DE-AC05-97OR22416, signed June 5, 2000
- DOE-ORO Manual 110, ORGANIZATION AND FUNCTIONS OF OAK RIDGE OPERATIONS, Chapter 5, Change 1, December 7, 1999
- *ETMC Oak Ridge Operations ISMS Questionnaire*, March 20, 1998
- Subcontract clause GC-6, "Environment, Safety and Health (ES&H)"
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- Position description for the COR
- "Individual Development Plan Worksheet" for the COR
- JCI *Safety and Health Manual*, January 10, 1995

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager
- DOE-ORO Alternate COR
- DOE-ORO Former COR
- DOE-ORO Contract Technical Monitor
- DOE-ORO Future Alternate COR
- DOE-ORO Director, Technical Services Division, and UES Executive Director
- DOE-ORO Contracting Officer
- DOE-ORO Future Contracting Officer

Conclusion

This objective was met.

Opportunities for Improvement

MG.1-4-OFI.1 The UES organization, in negotiation with ETMC, must develop and implement performance measures for monitoring and assessing contractor performance in ES&H areas as required by the ISM DEAR clause.

NOTE: This Opportunity for Improvement was satisfactorily closed before the verification was completed.

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FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.1 DATE: September 21, 2000

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/25/00	Date: 9/25/00

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FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.2 DATE: August 13, 2000

OBJECTIVE

DOE's and ETMC's budgeting and resource assignment procedures include a process to ensure the application of balanced priorities. Resources are allocated to address safety, programmatic, and operational considerations. Protecting the public, workers, and environment is a priority whenever activities are planned and performed. (CE I-2, CE I-7)

Criteria and Discussion of Results

MG.2-1 **The prioritization and allocation process clearly addresses both ES&H and programmatic needs. The process involves line management input and approval of the results. Priorities include commitments and agreements to DOE as well as stakeholders.**

Discussion of Results – Fleet management programmatic priorities and allocations are provided by the Contract Technical Monitor through the COR. Roads and grounds programmatic priorities and allocations are provided by the COR. The ETMC budget has a separate allocation for ES&H requirements.

This criterion was met.

MG.2-2 **ETMC's procedures provide resources to adequately analyze hazards associated with the work being planned. ETMC's procedures for allocating resources include provisions for implementation of hazard controls for tasks being funded.**

Discussion of Results – Job safety analyses to identify and analyze hazards are performed by the Foremen and the ES&H/QA Manager. The ETMC budget has a separate allocation for ES&H requirements. ES&H requirements are not funded out of the same account as labor and materials for this task. The ES&H account is used to fund PPE, training, procedures, etc.

This criterion was met.

MG.2-3 **The incentive and performance fee structure promote balanced priorities.**

Discussion of Results – The ETMC contract is a time and materials contract where ETMC makes money only when performing mission work. The performance fee is tied into the labor rate charges. If ETMC is performing mission work, then they are getting paid their performance fee. The precept for the time and materials contract structure is that if ETMC is performing work unsafely, then they will not be able to perform work due to lost work day cases. This is a new contract structure for DOE-ORO, and it has yet to be proven to promote balanced priorities.

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.2 DATE: August 13, 2000

This criterion was met.

Record Review

- ETMC contract, DE-AC05-97OR22416, signed June 5, 2000
- DOE-ORO Manual 110, ORGANIZATION AND FUNCTIONS OF OAK RIDGE OPERATIONS, Chapter 5, Change 1, December 7, 1999
- *ETMC Oak Ridge Operations ISMS Questionnaire*, March 20, 1998
- Subcontract clause GC-6, "Environment, Safety and Health (ES&H)"
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- Position description for the COR
- "Individual Development Plan Worksheet" for the COR
- JCI *Safety and Health Manual*, January 10, 1995

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC On-Site Project Manager and ES&H Manager
- ETMC Field Operations Manager
- DOE-ORO Alternate COR
- DOE-ORO Former COR
- DOE-ORO Contract Technical Monitor

Conclusion

This objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

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FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.2 DATE: August 13, 2000

Team Member: Teresa Robbins Teresa Robbins Date: 9/25/00	Team Leader: Martin McBride Martin McBride Date: 9/25/00

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FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.3 DATE: August 13, 2000

OBJECTIVE

ETMC's procedures and practices ensure that personnel who define the scope of work and allocate resources have competence that is commensurate with the assigned responsibilities. (CE I-8)

Criteria and Discussion of Results

MG.3-1 **ETMC's procedures ensure that the personnel including line management who define, prioritize, and approve the scope of work and allocate resources have competence that is commensurate with the assigned responsibilities.**

Discussion of Results – Position descriptions and resumes for the President, ES&H/QA Manager, Field Operations Manager, and Foremen ensure that line management is competent to perform their assigned responsibilities. Interviews with the ETMC line management demonstrated a high degree of competence to perform fulfill their assigned responsibilities.

This criterion was met.

MG.3-2 **Personnel who actually participate in definition of the scope of work and allocate resources demonstrate competence to prioritize and approve work with tailored hazard controls.**

Discussion of Results – Line management demonstrate competence to perform their assigned responsibilities to prioritize, allocate resources, and approve work.

This criterion was met.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- JCI *Safety and Health Manual*, January 10, 1995
- Position description and resume for ETMC ES&H/QA Manager
- Resume for the ETMC President
- Position description for the Light Vehicle Shop, Heavy Equipment Shop, and Roads and Grounds Superintendent
- Position description for the Maintenance Foreman

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FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.3 DATE: August 13, 2000

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager

Conclusion

This objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/25/00	Date: 9/25/00

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.4 DATE: September 21, 2000

OBJECTIVE

DOE has established processes that interface efficiently and effectively with the contractor's organization to ensure that work is performed safely. DOE's procedures and mechanisms should ensure that work is formally and appropriately authorized, and performed safely. DOE line managers should be involved in the review of safety issues and concerns and should have an active role in authorizing and approving work and operations. (CE I-7, CE I-8, CE I-9, CE-II-7)

Criteria and Discussion of Results

MG.4-1 **DOE's procedures ensure that personnel who review or oversee the performance of work have competence commensurate with the responsibilities to which they are assigned.**

Discussion of Results – DOE Order 541.1 provides the requirements and responsibilities for establishing and performing the duties of Contracting Officers and CORs. DOE-ORO Standard Procurement Practice 26, *Designation of Contracting Officer's Representatives*, requires CORs to meet training requirements and/or sufficient contractual experience to adequately oversee contracts and contractors. DOE-ORO has processes and procedures for designating Contracting Officers, CORs, and Contract Technical Monitors. The UES organization has not implemented those processes and procedures in a manner that allows for appropriate time for transition to a new alternate COR which allows the new alternate COR to perform duties of a COR in a competent manner.

This criterion was not met.

MG.4-2 **DOE's roles and responsibilities are clearly delineated to (a) ensure a satisfactory level of safety, accountability, and authority to define the scope of work, (b) ensure that work is performed within controls, and (c) provide for feedback and improvement.**

Discussion of Results – DOE-ORO has clearly defined roles and responsibilities for the Contracting Officer, COR, and Contract Technical Monitor in the DOE-ORO FRAM and DOE-ORO Manual 110. Implementation of those roles and responsibilities was not clear. This issue is discussed further in MG.4-4 and 4-5 below.

This criterion was met.

MG.4-3 **DOE's procedures and/or mechanisms are in place that establish a process for confirming readiness and authorizing operations.**

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.4 DATE: September 21, 2000

Discussion of Results – DOE-ORO has procedures and mechanisms to confirm readiness as required by DOE Order 425.1. This process is not applicable to the ETMC scope of work. The ETMC contract establishes the process for authorizing work through the COR.

This criterion was met.

MG.4-4 **DOE's procedures and/or mechanisms ensure that the safety management system is properly implemented and line management oversight of ETMC's worker, public, environment, and facility protection programs is performed.**

Discussion of Results – The UES organization does not have procedures or demonstrated mechanisms under the current ETMC contract to ensure that the safety management system is properly implemented. Under the former contract, the COR periodically requested representatives from the ES&H organization to perform compliance assessments. This responsibility was communicated verbally.

This criterion was not met.

MG.4-5 **DOE's procedures and/or mechanisms ensure the implementation of quality assurance programs and ensure that contractors implement QA programs.**

Discussion of Results – The ETMC contract requires a QA program. The COR is responsible for ensuring that the QA program is implemented. The UES organization does not have procedures or a demonstrated mechanism to ensure that ETMC's QA Program is implemented.

This criterion was not met.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- DOE-ORO Manual 110, ORGANIZATION AND FUNCTIONS OF OAK RIDGE OPERATIONS, Chapter 5, Change 1, December 7, 1999
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- Position description for the COR
- "Individual Development Plan Worksheet" for the COR

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.4 DATE: September 21, 2000

- DOE-ORO memorandum from William Bailey to James H. Thompson, subject: "Designation of Contract Technical Monitor for Contract No. DE-AC-97OR22416 with East Tennessee Mechanical Contractors, Inc.," July 26, 2000
- DOE-ORO memorandum from Barbara J. Jackson to William E. Bailey, subject: "Designation of Contracting Officer's Representative for Contract No. DE-AC05-97OR22416 with East Tennessee Mechanical Contractors, Inc.," June 7, 2000

Interviews

- DOE-ORO Alternate COR
- DOE-ORO Former COR
- DOE-ORO Contract Technical Monitor
- DOE-ORO Future Alternate COR
- DOE-ORO Director, Technical Services Division, and USE Executive Director
- DOE-ORO Contracting Officer
- DOE-ORO Future Contracting Officer

Observations of Work

Observed the DOE-ORO Contract Technical Monitor and Director, Information Resources Management Division, discuss resource allocation issues with the ETMC contract.

Conclusion

The objective was met.

Opportunities for Improvement

MG.4-1-OFI.1 The UES organization should establish a process for transitioning COR ES&H responsibilities from a current COR to a future COR. The transition process should allow for the future COR to be fully capable of functioning as the COR prior to assuming his/her COR duties.

MG.4-4-OFI.2 The UES organization should develop procedures that define how the COR will perform his/her responsibilities for ensuring the contractor's ISMS is implemented.

NOTE: This Opportunity for Improvement was satisfactorily closed before the verification was completed.

MG.4-5-OFI.2 The UES organization should establish a process for verifying implementation of ETMC's QA Program.

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.4 DATE: September 21, 2000

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/25/00	Date: 9/25/00

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FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.5 DATE: August 14, 2000

OBJECTIVE

DOE has established processes that interface efficiently and effectively with the contractor's organization to provide feedback and continuous improvement. Feedback information on the adequacy of controls is gathered, opportunities for improving the definition and planning of work are identified and implemented, line and independent oversight is conducted, and, if necessary, regulatory enforcement actions occur. DOE's procedures and mechanisms ensure that hazards are analyzed, controls are developed, and that feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with FRAM requirements. (CE I-6, CE I-7, CE I-8, CE I-9, CE II-8)

Criteria and Discussion of Results

MG.5-1 **DOE's processes and/or mechanisms are in place to ensure that the contractor's hazard analysis covers the hazards associated with the work and is sufficient for selecting standards.**

Discussion of Results – The UES organization does not have a formal process or demonstrated mechanism to ensure that the contractor's hazard analysis covers the hazards associated with the work. The ETMC contract and Work Smart Standards set adequately identify standards sufficient for the hazards identified in the contract.

This criterion was met.

MG.5-2 **DOE's procedures and/or mechanisms are in place in which DOE directs the contractor to propose facility or activity-specific standards tailored to the work and the hazards. DOE's procedures require that appropriate safety requirements in necessary functional areas are included in contracts.**

Discussion of Results – DOE-ORO Order 250, STANDARDS MANAGEMENT, defines the process and responsibilities for establishing activity-specific standards tailored to the work and the hazards. This is accomplished through the Work Smart Standards process. The ETMC Work Smart Standards set should be updated to reflect the current scope of the contract.

This criterion was met.

MG.5-3 **DOE's procedures and/or mechanisms are in place that direct DOE line manager oversight to ensure that implementation of hazards mitigation programs and controls are established.**

Discussion of Results – The UES organization does not have procedures or mechanisms to ensure the implementation of hazard mitigation controls and programs. For the

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.5 DATE: August 14, 2000

previous award fee contract, the COR used the award fee process to assess the implementation of controls to prevent or mitigate identified hazards.

This criterion was not met. Refer to the Opportunities for Improvement in the MG.4 form.

MG.5-4

DOE's procedures and/or mechanisms require that contractors develop a lessons learned program and monitor its implementation. A process is established for reviewing occurrence reports and approving proposed corrective action reports. A DOE process is established and effectively implemented to continuously improve efficiency and quality of operations. Corrective actions are developed, implemented, and tracked in order to profit from prior experience and the lessons learned. DOE provides effective line oversight of the contractor's self-assessment programs.

Discussion of Results – The UES organization does not have procedures or mechanisms to require or monitor implementation of a lessons learned program. The ETMC Work Smart Standards Set and S/RID should be updated to clearly identify which standards are still applicable to the facilities and activities under the scope of the modified contract. The existing S/RID does require compliance with DOE Order 232.1, OCCURRENCE REPORTING AND PROCESS SYSTEM. The UES organization does not appear to have a mechanism in place to oversee the contractor's self-assessment program.

This criterion was not met. Refer to the Opportunities for Improvement in the MG.4 form.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- DOE-ORO Manual 110, ORGANIZATION AND FUNCTIONS OF OAK RIDGE OPERATIONS, Chapter 5, Change 1, December 7, 1999
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- Position description for the COR
- "Individual Development Plan Worksheet" for the COR

Interviews

- DOE-ORO Alternate COR
- DOE-ORO Former COR
- DOE-ORO Contract Technical Monitor
- DOE-ORO Director, Technical Services Division, and UES Executive Director
- DOE-ORO Future Alternate COR

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.5 DATE: August 14, 2000

- DOE-ORO Contracting Officer
- DOE-ORO Future Contracting Officer

Observations of Work

Observed the DOE-ORO Contract Technical Monitor and Director, Information Resources Management Division, discuss resource allocation issues with the ETMC contract.

Conclusion

The objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins Date: 9/25/02	Team Leader: Martin McBride Martin McBride Date: 9/25/00

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FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.6 DATE: September 12, 2000

OBJECTIVE

The ISMS description is consistent and responsive to DOE Policies 450.4, 450.5, and 450.6; the DEAR; and the direction to the contractor from the Approval Authority. The contractor's policies and procedures ensure that the ISMS description is maintained, implemented, and that implementation mechanisms result in integrated safety management. (CE I-1)

Criteria and Discussion of Results

MG.6-1 **The ISMS description is consistent and responsive to DOE Policies 450.4, 450.5, and 450.6; the DEAR; and the direction to the contractor from the Approval Authority.**

Discussion of Results – The ISM DEAR clause has been appropriately included in the ETMC contract. The ETMC ISMS description is consistent with DOE Policies and the DEAR clause. The ETMC ISMS description refers to an ES&H Committee. As a result of the June 5, 2000, contract modification and a reduction in force, it does not appear that the ES&H Committee is still in effect. The ES&H/QA Manager stated that he was planning to continue the functions of the ES&H Committee through routine lunch sessions with various staff and management persons.

This criterion was met.

MG.6-2 **ETMC has mechanisms in place to direct, monitor, and verify the integrated implementation of the ISMS as described in the ISMS description. Implementation and integration expectations and mechanisms are evident throughout all corporate/site organizational functions.**

Discussion of Results – The ES&H/QA Manager is the focal point for monitoring and verifying implementation of the ISMS description. All ETMC staff and management who were interviewed acknowledged their responsibility to ensure safety in everything they do. ETMC uses a monthly "Self-Assessment Checklist" for verification of compliance with applicable regulations.

This criterion was met.

MG.6-3 **ETMC has assigned responsibilities and established mechanisms to ensure that the ISMS description is maintained current and that the annual update information is prepared and submitted.**

Discussion of Results – The ES&H/QA Manager is responsible for maintaining the ISMS description current and preparing the annual update information. The ISMS description does not clearly describe these responsibilities and should be revised to reflect the requirement to annually provide the update information required by the ISM

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.6 DATE: September 12, 2000

DEAR clause. The ETMC "Gap Analysis" identifies remaining open actions. These actions must be completed.

This criterion was not met.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- DOE-ORO Manual 110, ORGANIZATION AND FUNCTIONS OF OAK RIDGE OPERATIONS, Chapter 5, Change 1, December 7, 1999
- *ETMC Oak Ridge Operations ISMS Questionnaire*, March 20, 1998
- Subcontract clause GC-6, "Environment, Safety and Health (ES&H)"
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- Position description for the COR
- "Individual Development Plan Worksheet" for the COR
- JCI *Safety and Health Manual*, January 10, 1995
- *Integrated Safety Management Plan (ISMP)*, June 28, 2000

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager

Conclusion

This objective was met.

Opportunities for Improvement

MG.6-3-OFI.1 The ETMC ISMS program description should be revised to require the description to be maintained current and to provide the annual update information. A schedule should be provided to the COR for completion of the remaining open items in the "Gap Analysis."

NOTE: This Opportunity for Improvement was satisfactorily closed before the verification was completed.

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.6 DATE: September 12, 2000

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/12/00	Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: DATE:	MG.7 August 13, 2000

OBJECTIVE

Contractor roles and responsibilities are clearly defined to ensure satisfactory safety, accountability and authority. Line management is responsible for safety. Competence is commensurate with responsibilities. (CE I-7, CE I-8)

Criteria and Discussion of Results

MG.7-1

ETMC's ISMS defines clear roles and responsibilities of all personnel to ensure that safety is maintained at all levels. ISMS procedures and implementing mechanisms specify that line management is responsible for safety. ETMC's procedures describe clear roles and responsibilities for feedback and continuous improvement.

Discussion of Results –The ETMC ISMS description clearly identifies roles and responsibilities to ensure that safety is maintained at all levels. The ISMS description specifies that line management is responsible for safety. The ISMS description identifies roles and responsibilities for implementation of an effective feedback and continuous improvement program.

This criterion was met.

MG.7-2

Contractor procedures identify line management as responsible for ensuring that the implementation of hazard controls is adequate to ensure that work is planned and approved and conducted safely. Procedures require that line managers are responsible for the verification of adequate implementation of controls to mitigate hazards prior to authorizing work to commence.

Discussion of Results – The ISMS description clearly identifies line management as responsible for implementing hazard controls and ensuring that work is conducted safely.

This criterion was met.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- DOE-ORO Manual 110, ORGANIZATION AND FUNCTIONS OF OAK RIDGE OPERATIONS, Chapter 5, Change 1, December 7, 1999
- *ETMC Oak Ridge Operations ISMS Questionnaire*, March 20, 1998
- Subcontract clause GC-6, "Environment, Safety and Health (ES&H)"
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.7 DATE: August 13, 2000

- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- Position description for the COR
- "Individual Development Plan Worksheet" for the COR
- JCI *Safety and Health Manual*, January 10, 1995
- *Integrated Safety Management Plan (ISMP)*, June 28, 2000

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager

Conclusion

This objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/25/00	Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.8 DATE: August 13, 2000

OBJECTIVE

ETMC's procedures provide a method to ensure that controls are implemented during preparation for the initiation of work at each level. The procedures ensure that adequate controls are identified to mitigate the identified hazards and the controls are effectively implemented. ETMC's procedures provide assurance that controls will remain in effect so long as the hazards are present. (CE I-5, CE I-7, CE I-8)

Criteria and Discussion of Results

MG.8-1 **ETMC's procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect so long as the hazard is present.**

Discussion of Results – The *Heavy Equipment and Light Vehicle Shop Procedures* provide for controls to be implemented prior to commencing work and for the controls to remain in effect while the hazard is present.

This criterion was met.

MG.8-2 **ETMC's procedures for individual disciplines ensure that individual processes or maintenance actions include adequate controls associated with the individual discipline prior to commencing work and that the controls remain in effect so long as the hazard is present.**

Discussion of Results – The *Heavy Equipment and Light Vehicle Shop Procedures* provide for controls to be implemented prior to commencing work and for the controls to remain in effect while the hazard is present.

This criterion was met.

MG.8-3 **ETMC's procedures provide mechanisms or processes for gaining authorization to conduct operations or perform work.**

Discussion of Results – The *Heavy Equipment and Light Vehicle Shop Procedures* provide a process for authorizing work prior to commencing work.

This criterion was met.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.8 DATE: August 13, 2000

- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- JCI *Safety and Health Manual*, January 10, 1995
- Position description and resume for ETMC ES&H Manager
- Resume for ETMC President
- Position description for Light Vehicle Shop, Heavy Equipment Shop and Roads and Grounds Superintendent
- Position description for Maintenance Foreman
- *Heavy Equipment and Light Vehicle Shop Procedures*, December 3, 1999

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager

Conclusion

This objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/25/00	Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.9 DATE: August 13, 2000

OBJECTIVE

Feedback information on the effectiveness of the ISMS is gathered, opportunities for improvement are identified and implemented, line and independent oversight is conducted, and, if necessary, regulatory enforcement actions occur. (CE I-6, CE I-7, CE I-8)

Criteria and Discussion of Results

MG.9-1 **ETMC's procedures require line and independent oversight or assessment activities at all levels. Oversight and assessment activities verify that work is performed within agreed upon controls.**

Discussion of Results – The ETMC ISMS description delineates line management's responsibilities for oversight and assessment to ensure that work is performed within agreed-upon controls. ETMC uses its insurance company to provide independent assessments of work activities to agreed-upon controls.

This criterion was met.

MG.9-2 **ETMC's procedures ensure oversight or assessment results are managed to ensure lessons are learned and applied; that issues are identified and managed to resolution; that fundamental causes are determined and effective corrective action plans are developed and implemented.**

Discussion of Results – ETMC responds to assessment findings and identifies and implements appropriate corrective actions. There is no formal lessons learned program; however, lessons learned are identified by the ES&H/QA Manager and the Field Operations Manager and shared through weekly safety meetings.

This criterion was met.

MG.9-3 **ETMC's procedures provide for regulatory compliance and enforcement as required by Rules, laws, and permits, such as the Price-Anderson Amendments Act, National Environmental Policy Act, Resource Conservation and Recovery Act, Comprehensive Environmental Resource Compensation Liability Act, etc.**

Discussion of Results – The ETMC Work Smart Standards set and S/RID identify applicable Rules, laws, and permits. ETMC uses a monthly self-assessment checklist to verify compliance with applicable Rules, laws, and permits.

This criterion was met.

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.9 DATE: August 13, 2000

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- DOE-ORO Manual 110, ORGANIZATION AND FUNCTIONS OF OAK RIDGE OPERATIONS, Chapter 5, Change 1, December 7, 1999
- *ETMC Oak Ridge Operations ISMS Questionnaire*, March 20, 1998
- Subcontract clause GC-6, "Environment, Safety and Health (ES&H)"
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- Position description for the COR
- "Individual Development Plan Worksheet" for the COR
- JCI *Safety and Health Manual*, January 10, 1995
- *Integrated Safety Management Plan (ISMP)*, June 28, 2000

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager

Observations of Work

Observed work in the Light Vehicle Shop and the Heavy Equipment Shop during a facility walkthrough.

Conclusion

This objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.9 DATE: August 13, 2000

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/25/00	Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I & II Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.10 DATE: August 13, 2000

OBJECTIVE

Requirements from the 98-1 DOE Implementation Plan have been effectively included in DOE directives and implementing documents. The process for addressing and resolving safety issues identified by the Headquarters Office of Independent Oversight as outlined in directives and procedures has been effectively applied at the field level.

Criteria and Discussion of Results

MG.10-1 **This section will be used to document assessments of this objective performed by previous DOE-ORO ISMS assessments (e.g., Bechtel Jacobs Company LLC, BNFL Inc., and Decon and Recovery Services of Oak Ridge, LLC).**

Discussion of Results – This objective was verified previously through ISMS verifications of other DOE prime contractors in the Oak Ridge area. Objective MG.6 and criteria MG.6-1, MG.6-2, and MG.6-3 for each of the three ISMS verifications reviewed were consistent with objective MG.10-1 for this verification. The OFIs and recommended corrective actions identified through the previous verifications remain valid.

This criterion was met.

Record Review

- *Integrated Safety Management System Combined Phase I and II Verification for the Bechtel Jacobs Company LLC*, January 24 - February 18, 2000
- *Verification Final Report - Integrated Safety Management System Phase I Verification for BNFL Inc.*, June 19-30, 2000
- *Final Report -- Integrated Safety Management System Combined Phase I and II Verification for Decon and Recovery Services of Oak Ridge, LLC*, April 2000

Interviews

None.

Observations

None.

Conclusion

This objective was met.

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I & II Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.10 DATE: August 13, 2000

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins Date: 9/25/00	Team Leader: Martin McBride Martin McBride Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.11 DATE: September 25, 2000

OBJECTIVE

An integrated process has been established and is utilized to identify and prioritize specific mission discrete tasks, mission process operations, modifications and work items. (CE II-1)

Criterion and Discussion of Results

MG.11-1 **Procedures and/or mechanisms are in place and utilized by personnel that ensure that identified work (i.e., mission-related tasks and process, processes or facility modification, maintenance work, etc.) can be accomplished within the standards and requirements identified for the facility.**

Discussion of Results – ETMC procedures are in place that identify the work to be performed and provide for the work to be performed within the standards and requirements applicable to the facility. As a result of the contract modification which became effective on June 5, 2000, and the resulting reduction in force, ETMC has not assessed all its procedural requirements to ensure that necessary reviews are still being performed. The daily inspection of the fueling station was not being performed until identified by the reviewer.

This criterion was not met.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- JCI *Safety and Health Manual*, January 10, 1995
- Position description and resume for the ETMC ES&H/QA Manager
- Resume for the ETMC President
- Position description for the Light Vehicle Shop, Heavy Equipment Shop, and Roads and Grounds Superintendent
- Position description for the Maintenance Foreman
- *Heavy Equipment and Light Vehicle Shop Procedures*, December 31, 1999
- *Integrated Safety Management Plan (ISMP)*, June 28, 2000
- *Johnson Controls Work Smart Standards*, May 24, 1996

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.11 DATE: September 25, 2000

- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager

Observations of Work

Observed work in the Light Vehicle Shop and the Heavy Equipment Shop during the facility walkthrough on July 18, 2000.

Conclusion

The objective was met.

Opportunities for Improvement

MG.11-1-OFI.1 ETMC should perform a review of existing procedures and standards to determine whether procedures are still being implemented and requirements are still being met, considering recent changes in the contract scope.

NOTE: This Opportunity for Improvement was satisfactorily closed before the verification was completed.

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/25/00	Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.12 DATE: August 14, 2000

OBJECTIVE

Clear and unambiguous roles and responsibilities are defined and maintained at all levels within the facility or activity. Managers at all levels demonstrate a commitment to ISMS through policies, procedures, and their participation in the process. Facility or activity line managers are responsible and accountable for safety. Facility or activity personnel are competent commensurate with their responsibility for safety. (CE II-6)

Criteria and Discussion of Results

MG.12-1 **Procedures and/or mechanisms are in place that define clear roles and responsibilities within the facility or activity to ensure that safety is maintained at all levels.**

Discussion of Results – The ETMC ISMS description clearly identifies roles and responsibilities for safety at all levels within the company. ETMC's line management demonstrates a strong commitment to safety and to ensuring that safety is integrated into their business practices.

This criterion was met.

MG.12-2 **Procedures and/or mechanisms are in place that ensure that personnel supervising and performing work are competent to safely perform their work assignments. Contractor procedures ensure that competence is commensurate with responsibilities to plan work and provide feedback and continuous improvement.**

Discussion of Results – The ETMC position descriptions and resumes reviewed clearly demonstrate that personnel supervising the work are competent to safely perform their work assignments. The *Training Matrix* identifies all applicable training requirements. The Field Operations Manager tracks training requirements and schedules to ensure that workers meet training requirements.

This criterion was met.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- JCI *Safety and Health Manual*, January 10, 1995
- Position description and resume for the ETMC ES&H/QA Manager

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.12 DATE: August 14, 2000

- Resume for the ETMC President
- Position description for the ETMC Light Vehicle Shop, Heavy Equipment Shop, and Roads and Grounds Superintendent
- Position description for the ETMC Maintenance Foreman
- *Heavy Equipment and Light Vehicle Shop Procedures*, December 31, 1999
- ETMC-QAM-3.0, *Training Matrix*, December 1, 1999

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager

Observations of Work

Observed work in the Light Vehicle Shop and Heavy Equipment Shop during the facility walkthrough on July 18, 2000.

Conclusion

This objective was met.

Opportunities for Improvement

None.

Noteworthy Practices -- None.

Team Member: Teresa Robbins Date: 9/25/00	Team Leader: Martin McBride Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: DATE:	MG.13 August 13, 2000

OBJECTIVE

An integrated process has been established that ensures that mechanisms are in place to ensure continuous improvements are implemented through an assessment and feedback process, which functions at each level of work and at every stage in the work process. (CE II-5)

Criteria and Discussion of Results

MG.13-1

Procedures and/or mechanisms are in place and utilized by personnel to collect feedback information such as self assessment, monitoring against performance objectives, occurrence reporting, and routine observation. Personnel assigned these roles are competent to execute these responsibilities.

Discussion of Results – ETMC has procedures that require use of monthly self-inspection checklists. These checklists are used to verify compliance with applicable OSHA requirements. Information from these checklists is used to correct deficiencies. Although performance measures have not been identified for safety and health, ETMC uses its insurance rating as a measure of how they are performing in the area of safety and health. Routine observations are performed by all levels of management on a daily basis by walking the spaces and observing work. Position descriptions clearly identify that the personnel assigned these roles are competent to perform their responsibilities.

The criterion was met.

MG.13-2

Procedures are in place that develop feedback and improvement information opportunities at the facility levels as well as the individual maintenance or activity level. The information that is developed at the individual maintenance or activity level is utilized to provide feedback and improvement during future similar or related activities.

Discussion of Results – ETMC does not have a clearly defined feedback and improvement process or mechanism for individual maintenance activities. Feedback and improvement is performed at the individual maintenance level through informal communication and sometimes through safety meetings.

This criterion was met.

MG.13-3

Procedures and/or mechanisms are in place and utilized by managers to identify improvement opportunities. Evaluation and analysis mechanisms should include processes for translating operational information into improvement processes and appropriate lessons learned.

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.13 DATE: August 13, 2000

Discussion of Results – ETMC has used its insurance rating information to evaluate lessons learned as a result of an increase in the rating. The analysis identified an association with less experienced workers being involved in accidents. ETMC has used this information as the basis for providing more training and on-the-job reenforcement for the less experienced workers.

This criterion was met.

MG.13-4 **Procedures and/or mechanisms are in place and utilized by managers to consider and resolve recommendations for improvement, including worker suggestions.**

Discussion of Results – ETMC has an open door policy for employees bringing suggestions and improvement recommendations to management. Management has demonstrated appropriate commitment to resolution of safety improvements and worker suggestions.

This criterion was met.

MG.13-5 **Procedures and/or mechanisms are in place, which include a process for oversight that ensures that regulatory compliance is maintained.**

Discussion of Results – ETMC uses monthly self-inspection checklists to ensure compliance with OSHA regulations. The monthly self-inspection checklists are completed by the Foremen. The ES&H/QA Manager and the Field Operations Manager provide daily oversight of work activities to ensure that regulatory compliance is maintained. ETMC routinely requests its insurance carrier to perform independent assessments of its activities to ensure that regulatory compliance is maintained.

This criterion was met.

Record Review

- ETMC contract DE-AC05-97OR22416, signed June 5, 2000
- ETMC letter from Thomas R. McWilliams to William Bailey, subject: "Integrated Safety Management Systems Verification," August 3, 2000
- DOE-ORO letter from Marlena Clark to James B. Bussell, subject: "ETMC Policies, Plans and Procedures - DE-AC05-97OR22416," April 2, 1997
- JCI *Safety and Health Manual*, January 10, 1995
- Position description and resume for the ETMC ES&H/QA Manager
- Resume for the ETMC President
- Position description for the ETMC Light Vehicle Shop, Heavy Equipment Shop, and Roads and Grounds Superintendent

FUNCTIONAL AREA Business and Management (MG)	OBJECTIVE: MG.13 DATE: August 13, 2000

- Position description for the ETMC Maintenance Foreman
- *Heavy Equipment and Light Vehicle Shop Procedures*, December 31, 1999

Interviews

- ETMC President and Project Manager
- ETMC Human Resources Manager
- ETMC Accounting Manager
- ETMC ES&H/QA Manager
- ETMC Field Operations Manager

Observations of Work

Observed work in the Light Vehicle Shop and the Heavy Equipment Shop during the facility walkthrough on July 18, 2000.

Conclusion

This objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Teresa Robbins Teresa Robbins	Team Leader: Martin McBride Martin McBride
Date: 9/25/00	Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Operations (OP)	OBJECTIVE: OP.1 DATE: August 15, 2000

OBJECTIVE

An integrated process has been established and is utilized to effectively plan, authorize and execute the identified work for the facility or activity. (CE II-4)

Criteria and Discussion of Results

OP.1-1 **Procedures and/or mechanisms are in place to ensure that work planning is integrated at the individual maintenance or activity level fully analyzes hazards and develops appropriate controls.**

Discussion of Results – Work planning at ETMC is accomplished through the work control system as delineated in JCI-OPS-6.0, *Work Control System.* This procedure requires that a requester initiate a work request, which is used to identify, plan, and implement maintenance activities. A "Work Request Form" includes the use of a "Work Request Checklist," "Management of Change/Modification Form," and "Work Request Approval Matrix." The "Work Request Checklist" requires the initial identification of job hazards and controls, special work permits, work instructions, inspections, oversight, and management of change. The identification of job hazards provides a hazard priority classification of 1, 2, or 3, based on the job hazards present. If a work request receives a hazard priority rating of 1, then a JSA is performed. A JSA requires that the work activity be divided into its basic steps, and the hazards or potential hazards associated with each step are identified. A control is then developed for each hazard that is identified.

The "Management of Change/Modification Form" provides for an assessment of the impact of change on process safety and reliability. The "Work Request Approval Matrix" identifies appropriate approvals for each type of maintenance activity and the personnel to be consulted or notified of the work to be performed.

The above-noted procedures should be revised to reflect the present scope of work in the contract. See the OFI in the HAZ.2 form, HAZ.2-1-OFI.1.

The criterion was met.

OP.1-2 **Procedures and/or mechanisms are in place which ensure that there is a process used to confirm that the facility or activity and the operational work force are in an adequate state of readiness prior to authorizing the performance of the work.**

Discussion of Results – ETMC verifies the readiness of a facility, activity or, group of workers to perform work by conducting a pre-job briefing between the supervisor and workers involved prior to start of work. The supervisor is responsible for briefing the workers on the scope of work, the hazards that are present, the safety measures to be

used, and any special permits. He includes worker suggestions and feedback for the project using a "Work Request Checklist." A pre-job walkdown of the work project and job site are included in the pre-job briefing where necessary.

If the workers or the supervisor observes an unsafe condition during work, then the task or activity is not in a state of readiness, and the workers are required to exercise their stop work authority until the unsafe condition is corrected. All stop work orders are required to be communicated to the ETMC Operations Manager, and the task or activity must be returned to readiness before work restarts.

Supervisors are required to conduct a daily pre-job briefing where new work assignments are made daily. This occurs in the Light Vehicle Shop and the Heavy Equipment Shop.

The criterion was met.

OP.1-3 **Procedures and/or mechanisms are in place which ensure that there is a process used to gain authorization to conduct operations.**

Discussion of Results – Authorization to perform work at ETMC is obtained by the work order requestor through the process documented in the "Work Request Approval Matrix" of JCI-OPS-6.0, *Work Control System.* This document identifies persons having final approval authority for specific work order requests, persons to be consulted before final approval, and persons to be notified after approvals. A work request is approved prior to the start of work and following the post-job briefing when the work request is completed.

Following completion of the "Work Request Checklist," the hazards and controls are identified, special work permits and critical systems must be identified, and outages must be scheduled. The work request is approved by the ES&H/QA Manager and scheduled for performance by the Scheduling Team at the Scheduling Meeting. The meeting is an administrative aid used for scheduling maintenance tasks and activities assigned to ETMC workers. The Scheduling Team consists of the Operations Manager, applicable foremen, the ES&H/QA Manager, an ES&H representative, and any others required to be present.

The criterion was met.

OP.1-4 **Procedures and/or mechanisms are in place which ensure that safety requirements are integrated into work performance.**

Discussion of Results – ETMC integrates safety requirements into work performance through the use of the following:

FUNCTIONAL AREA Operations (OP)	OBJECTIVE: OP.1 DATE: August 15, 2000

-- *Work Control System*,
-- *Safety and Health Plan*,
-- safety communications, such as weekly safety meetings and safety information posted on bulletin boards,
-- supervisor's safety responsibilities (such as supervision of employees in their safety responsibilities), including safety enforcement in ETMC's vehicle shops and other organizations according to the supervisors' position descriptions,
– monthly safety reviews of ETMC facilities conducted by supervisors,
-- pre-job and post-job briefings, and
-- employee's safety responsibility, such as stop work authority and providing feedback at pre-job and post-job briefings

Initial safety requirements for ETMC work requests are identified through the use of the "Integrated Facility Management Work Request Checklist." Job hazards are identified along with special work permits, work instructions, and control measures. If the hazard priority is high, a JSA is performed by the ES&H/QA Manager that identifies basic work steps, potential hazards, and control measures. The work request is approved by the responsible officials, and workers are informed of safety requirements for the work at pre-job briefings.

Safety communications consist of weekly safety meetings, safety committee, written communications, bulletin boards, safety bulletins, and a safety suggestion system. An "Environmental, Safety and Health Checklist" is used by supervisors in the monthly safety reviews. Accident investigations are used to determine accident causes and needed corrective actions. Self-assessments are used to conduct thorough ES&H organization audits and to train managers to perform audits of their own areas. The ETMC safety program has been very effective in reducing job-related employee injuries. The ETMC OSHA 200 log indicates that the last recordable employee injury was a back strain that occurred on June 30, 1997, and was not a lost time incident.

The criterion was met.

OP.1-5 **Workers actively participate in the work planning process.**

Discussion of Results – ETMC's workers participate in the work planning process by providing recommendations concerning work-related instructions and safety information at pre-job briefings. ETMC's workers provide feedback to supervisors during post-job briefings, which is used as work-related input to lessons learned.

Workers sign the "Work Request Checklist" at post-job briefings. Workers also participate in work planning through pre-job walkdowns to survey work and safety conditions at the job site. Workers may also identify needed maintenance projects, such as faulty/failed equipment, safety improvements, and changes to existing installations.

FUNCTIONAL AREA Operations (OP)	OBJECTIVE: OP.1 DATE: August 15, 2000

Workers also participate in work planning for vehicles and equipment by recommending repairs to existing equipment when the repairs are outside the scope of the work order.

The criterion was met.

Record Review

- JCI-OPS-6.0, *Work Control System*, April 10, 1996
- *JCI Job Safety Analysis Procedure*, October 1996
- "Environmental, Safety and Health Monthly Self Inspection Checklist," undated
- "LVS Employee Training Information Verification Form," July 31, 2000
- "HES Employee Training Information Verification Form," April 17, 2000
- *ETMC Monthly Inspection of Mobile Cranes and Pneumatic Hoisting Equipment*, July 20, 2000
- *ETMC Annual Inspection of Mobile Cranes and Pneumatic Hoisting Equipment*, March 23, 2000
- *ETMC Excavation/Penetration Permit for Work Order # B.C. 01.9713.0411*, June 29, 2000
- ETMC job description for the Maintenance Foreman, July 6, 2000
- ETMC job description for the Light Vehicle Shop, Heavy Equipment Shop, and Roads and Grounds Superintendent, July 14, 2000

Interviews

- ETMC Light Vehicle Shop Foreman
- ETMC Light Vehicle Shop Mechanic/Welder
- ETMC Roads and Grounds, Laborer/Supervisor ,
- ETMC Heavy Equipment Shop Equipment Mechanic
- ETMC Roads and Grounds Equipment Operator
- ETMC Operations Manager
- ETMC Heavy Equipment Shop Supervisor/Equipment Mechanic
- ETMC ES&H/QA Manager

Observations of Work

- Walkdown of the Light Vehicle Shop vehicle repair safety equipment and operation of the vehicle exhaust ventilation system, Building 1916-T2, August 4, 2000
- Grass mowing operation, Bear Creek Road, August 4, 2000
- Walkdown of the Heavy Equipment Shop vehicle/equipment repair safety equipment, Building 2005, August 7, 2000
- Heavy Equipment Shop Weekly Safety Meeting, August 7, 2000

Conclusion

The objective was met.

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FUNCTIONAL AREA Operations (OP)	OBJECTIVE: OP.1 DATE: August 15, 2000

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: James S. Campbell Jim Campbell Date: 9/8/2000	Team Leader: Martin McBride Martin McBride Date: 9/25/00

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FUNCTIONAL AREA Subject Matter Expert (SME) – Environmental Compliance	OBJECTIVE: DATE:	SME-ENV.1 September 8, 2000

OBJECTIVE

Contractor procedures provide a method to ensure that controls are implemented during preparation for the initiation of work at each level. The procedures ensure that adequate controls are identified to mitigate the identified hazards and the controls are effectively implemented. Contractor procedures provide assurance that controls will remain in effect so long as the hazards are present. (CE I-5, CE I-7, CE I-8) [SME - Ph 1]

Criteria and Discussion of Results

SME-ENV.1-1 **ETMC's procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect so long as the hazard is present.**

Discussion of Results – ETMC's environmental compliance requirements are detailed in the *Environmental Manual* and described in the *ES&H Program Plan*. The requirements are conveyed verbally to the personnel performing the work. The actions taken to ensure that the requirements are being met typically involve on-the-job training and supervisor observation. These actions are not proceduralized, formalized, or documented. The only documentation noted was the certification required for performing freon recovery.

This criterion was not met.

SME-ENV.1-2 **ETMC's procedures for individual disciplines ensure that individual processes or maintenance actions include adequate controls associated with the individual discipline prior to commencing work and that the controls remain in effect so long as the hazard is present.**

Discussion of Results – Environmental compliance controls for individual disciplines include requirements for a Spill Prevention Control and Countermeasures plan under the Clean Water Act, proper management of hazardous waste and used oil in onsite accumulation areas under the Resource Conservation and Recovery Act, and control of freon emissions under the Clean Air Act. The only documented control mechanism noted was the freon recovery certification.

This criterion was not met.

SME-ENV.1-3 **ETMC's procedures provide mechanisms or processes for gaining authorization to conduct operations or perform work.**

Discussion of Results – Authorization to perform work at ETMC with regard to environmental compliance involves provision of environmental compliance

FUNCTIONAL AREA Subject Matter Expert (SME) – Environmental Compliance	OBJECTIVE: DATE:	SME-ENV.1 September 8, 2000

requirements verbally during weekly meetings, during initial orientations for employees, verification of freon certification, and on-the-job observations by supervisors. None of these actions are prescribed in the *Environmental Manual,* work control documents, or in shop procedures. Agendas and rosters are kept for meeting and orientations and freon certifications are monitored, but no other documentation for these actions was noted.

This criterion was not met.

SME-ENV.1-4 **ETMC's mechanisms for the control of work specify that line management is responsible for safety.**

Discussion of Results – This criteria is met in Section 2.7 of the *ES&H Program Plan.*

This criterion was met.

SME-ENV.1-5 **ETMC personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.**

Discussion of Results – Interviews with ETMC management and staff indicate a high level of competence in environmental compliance areas. The requirements appeared to be up to date, and, possibly due to the small size of the organization, the informal mechanism used to convey these requirements and to ensure that they are met is working reasonably well. Environmental compliance concerns were noted in the *Spill Prevention Control and Countermeasures Plan* (i.e., required yearly review not performed) and the used oil requirements (i.e., drum not labeled), indicated an OFI in this area. (See SME-ENV.2.4-OFI.1.)

This criterion was met.

Record Review

- *Environmental Manual*, January 10, 1995
- *ES&H Program Plan*, Revision 1, August 18, 1997
- *Heavy Equipment and Light Vehicle Shop Procedures*, December 13, 1999
- *Spill Prevention Control and Countermeasures Plan*, July 1, 1997
- *Quality Assurance Manual*, March 22, 2000

FUNCTIONAL AREA Subject Matter Expert (SME) – Environmental Compliance	OBJECTIVE: DATE:	SME-ENV.1 September 8, 2000

Interviews

- ETMC ES&H/QA Manager
- ETMC Field Operations Manager
- ETMC Heavy Equipment Shop Foreman/Mechanic
- ETMC Acting Foreman, Light Vehicle Shop
- ETMC Roads and Grounds Team Leader
- DOE-ORO Alternate COR

Observations of Work

No actual "environmental compliance work" was observed. Site areas subject to environmental compliance requirements were inspected to evaluate environmental compliance implementation.

Conclusion

The objective was met.

Although the work performed meets most of the environmental compliance requirements and ETMC management and staff appear knowledgeable on environmental compliance requirements, the procedures generally do not provide a method to ensure that the requirements are met. The flowdown of environmental compliance information and verification of proper implementation is generally informal and undocumented. Minor revisions to ETMC's current procedures to provide documentation of environmental compliance functions appear to be warranted.

Opportunities for Improvement

SME-ENV.1-1-OFI.1 & SME-ENV.1-2 ETMC's procedures identify environmental compliance requirements, but they do not specify or discuss documentation that would ensure that the requirements are flowing down to the working level. ETMC should revise its procedures to delineate the processes or mechanisms to be used to ensure that environmental compliance requirements are being met.

NOTE: This Opportunity for Improvement was satisfactorily closed before the verification was completed.

SME-ENV.1-3-OFI.2 Worker knowledge of environmental compliance requirements is critical to ensure compliance. Work should not be authorized until it can be verified that workers possess the necessary environmental compliance knowledge. Current ETMC procedures, manuals, and work control documents do not specify or discuss the documentation

FUNCTIONAL AREA Subject Matter Expert (SME) – Environmental Compliance	OBJECTIVE: SME-ENV.1 DATE: September 8, 2000

required to verify a worker's environmental compliance knowledge or to authorize work. ETMC should revise procedures to include a requirement to document the worker's readiness and ETMC management's authorization to perform work.

NOTE: This Opportunity for Improvement was satisfactorily closed before the verification was completed.

Noteworthy Practices

None.

Team Member: Richard Martin Date: 9/8/00	Team Leader: Martin McBride Date: 9/25/00

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FUNCTIONAL AREA Subject Matter Expert (SME) – Environmental Compliance	OBJECTIVE: DATE:	SME-ENV.2 September 8, 2000

OBJECTIVE

Within the environmental compliance area, the planning of work includes an integrated analysis of hazards and development and specification of necessary controls. There is an adequate process for the authorization and control of work and a process for identifying opportunities for feedback and continuous improvement. Within environmental compliance, line managers are responsible for safety; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria and Discussion of Results

SME-ENV.2-1 **Procedures and/or mechanisms for environmental compliance require adequate planning of individual work items to ensure that hazards are analyzed and controls are identified.**

Discussion of Results – Planning and analysis are performed to ensure that environmental compliance requirements are met, but they are not documented in ETMC's procedures.

This criterion was not met.

SME-ENV.2-2 **Procedures and/or mechanisms for environmental compliance contain clear roles and responsibilities. Environmental compliance is effectively integrated with line support managers to ensure that line managers are responsible for safety.**

Discussion of Results – Roles and responsibilities for environmental compliance are clearly described in ETMC's documents and provide for effective flowdown of responsibility.

This criterion was met.

SME-ENV.2-3 **Procedures and/or mechanisms for environmental compliance require controls to be implemented, that these controls are effectively integrated, and readiness is confirmed prior to performing work.**

Discussion of Results – Procedures identify the environmental compliance requirements to be met, but they do not provide for effective integration of the requirements at the working level. The key confirmation of readiness is on-the-job training, which is informal and undocumented.

This criterion was not met.

FUNCTIONAL AREA Subject Matter Expert (SME) – Environmental Compliance	OBJECTIVE: DATE:	SME-ENV.2 September 8, 2000

SME-ENV.2-4 **Procedures and/or mechanisms for environmental compliance require that personnel who are assigned to environmental compliance have a satisfactory level of competence.**

Discussion of Results – Environmental compliance mechanisms include a certification requirement for the freon recovery process and verbal instructions for meeting other environmental compliance requirements. Lack of recent review of the *Spill Prevention Control and Countermeasures Plan* and lack of proper labeling of the used oil containers indicate room for improvement in this area.

This criterion was not met.

SME-ENV.2-5 **Procedures and/or mechanisms for environmental compliance require that within the subject area feedback and continuous improvement results.**

Discussion of Results – ETMC's feedback process for environmental compliance issues is informal and undocumented, except when it is required by regulation or DOE requirements. Continuous improvement is implemented via discussions at weekly safety meetings. The *Quality Assurance Manual* includes process requirements and forms, but there was no indication that the process or forms were being used for environmental compliance.

This criterion was not met

Record Review

- *Environmental Manual*, January 10, 1995
- *ES&H Program Plan*, Revision 1, August 18, 1997
- *Heavy Equipment and Light Vehicle Shop Procedures*, December 13, 1999
- *Spill Prevention Control and Countermeasures Plan*, July 1, 1997
- *Quality Assurance Manual*, March 22, 2000

Interviews

- ETMC ES&H/QA Manager
- ETMC Field Operations Manager
- ETMC Heavy Equipment Shop Foreman/Mechanic
- ETMC Acting Foreman, Light Vehicle Shop
- ETMC Roads and Grounds Team Leader
- DOE-ORO Alternate COR

FUNCTIONAL AREA Subject Matter Expert (SME) – Environmental Compliance	OBJECTIVE: DATE:	SME-ENV.2 September 8, 2000

Observations of Work

No actual "environmental compliance work" was observed. Site areas subject to environmental compliance requirements were inspected to evaluate environmental compliance implementation.

Conclusion

The objective was not met.

Although analysis of and planning for environmental compliance is performed, the process is not documented or formally integrated into ETMC's operations. Implementation of a process for feedback and continuous improvement was not evident. Therefore, this objective was not met. However, extensive corrective actions do not appear to be warranted. Minor additions to ETMC's procedures to specify documentation requirements may resolve all of the issues noted.

To avoid duplication, the OFI for SME-ENV.1-1 and SME-ENV.1-2 covers the issues noted under SME-ENV.2.1 above. The OFI for SME-ENV.1.3 covers SME-ENV.2.3.

Opportunities for Improvement

SME-ENV.2-4-OFI.1 Although a compliance inspection was not performed as a part of this verification, two compliance issues were noted. ETMC should evaluate alternative strategies to monitor environmental compliance to ensure that personnel are properly implementing the environmental compliance requirements.

NOTE: This Opportunity for Improvement was satisfactorily closed before the verification was completed.

SME-ENV.2-5-OFI.2 In addition to correcting the noncompliances that are identified, ETMC should improve implementation of its lessons learned process. This process should be formal and documented. ETMC should revise its procedures to ensure implementation and documentation of the feedback and continuous improvement process in the environmental compliance area.

Noteworthy Practices

None.

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FUNCTIONAL AREA Subject Matter Expert (SME) – Environmental Compliance	OBJECTIVE: SME-ENV.2 DATE: September 8, 2000

Team Member: Richard Martin Date: 9/8/00	Team Leader: Martin McBride Date: 9/25/00

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FUNCTIONAL AREA	OBJECTIVE:	SME-FP.1
Subject Matter Expert (SME) – Fire Protection	DATE:	September 26, 2000

OBJECTIVE

ETMC's procedures provide a method to ensure that controls are implemented during preparation for the initiation of work at each level. The procedures ensure that adequate controls are identified to mitigate the identified hazards and the controls are effectively implemented. Contractor procedures provide assurance that controls will remain in effect so long as the hazards are present. (CE I-5, CE I-7, CE I-8)

Criteria and Discussion of Results

SME-FP.1-1 **ETMC's procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect so long as the hazard is present.**

Discussion of Results – ETMC's operations are commercial automotive repairs, heavy equipment repairs, grass cutting, and fuel dispensing (mobile and fixed gas pumps). These operations present standard industrial hazards, but they are not uncommon. The work control process is not as extensive as would be found in nuclear operations. The knowledge and skill of the workforce (i.e., mechanics, teamsters, and laborers) are used as the work basis, and individual procedures for work efforts are not provided. Housekeeping is maintained per the JCI *Safety and Health Manual*, January 10, 1995, and hot work is performed via a permit process (SPI-12-05-12, February 6, 1992). These are the methods used to control hazards throughout the work effort.

This criterion was met.

SME-FP.1-2 **ETMC's procedures for individual disciplines ensure that individual processes or maintenance actions include adequate controls associated with the individual discipline prior to commencing work and that the controls remain in effect so long as the hazard is present.**

Discussion of Results – ETMC's operations have adequate controls for fire safety due to the repetitive nature of their activities. ETMC's documentation is from prior contractors that did the same work as ETMC as well as a larger scope of work. The documentation should be updated to reflect the current contractor and the smaller scope of work.

This criterion was met.

SME-FP.1-3 **ETMC's procedures provide mechanisms or processes for gaining authorization to conduct operations or perform work.**

Discussion of Results – ETMC has a work control process that utilizes work orders to designate which vehicle(s) need work. Welding or other hot work is controlled by a permitting process, and positive supervisory acknowledgment is required. The operations within the shop are repetitive and controlled. Servicing of fleet vehicles is

FUNCTIONAL AREA Subject Matter Expert (SME) – Fire Protection	OBJECTIVE: DATE:	SME-FP.1 September 26, 2000

similarly controlled (either scheduled or as called).

This criterion was met.

SME-FP.1-4 **ETMC's mechanisms for the control of work specify that line management is responsible for safety.**

Discussion of Results – The Safety Policy Statement in the JCI *Safety and Health Manual* specifically states "The authority and responsibility to implement and maintain the Safety Program is delegated t to the line management superintendents." In addition, the supervisor performs a monthly self-inspection that is documented by a checklist.

The criterion was met.

SME-FP.1-5 **ETMC personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.**

Discussion of Results – The personnel that perform work are provided with basic safety training via the New Employee Orientation and safety meetings. Personnel who are expected to use a fire extinguisher have been given initial training, but they have not been provided with the annual refresher training required by 29 CFR 1910.157. (This was covered via completed refresher training on August 28, 2000.) The supervisor is cognizant of his responsibilities with respect to control of hot work. The workers are all aware of the fire hazards associated with their assigned responsibilities, and feel comfortable with their level of training. The workers are aware of their housekeeping duties and the other activities that may occur within their work areas.

The criterion was met.

Record Review

- JCI *Safety and Health Manual*, January 10, 1995
- *ETMC Safety and Health Plan*, December 2, 1997
- "Environmental, Safety and Health Monthly Self- Inspection Checklist," January 14, 1998 (reviewed the checklist filled out on June 27, 2000).
- Job descriptions for the ETMC Maintenance Foreman, ES&H/QA Manager, and Superintendent
- ETMC *Fire Protection Program Manual*, May 31, 1995
- "Johnson Controls Oak Ridge Project Hot work Permit," undated
- *Consolidated Standard/Requirements Identification Document*, Revision 1, July 22, 1997
- "Employee Training Information Verification Form," August 28, 2000

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FUNCTIONAL AREA Subject Matter Expert (SME) – Fire Protection	OBJECTIVE: SME-FP.1 DATE: September 26, 2000

Interviews

- ETMC Laborer
- ETMC Teamster
- ETMC Mechanics (2)
- ETMC ES&H/QA Manager
- ETMC Superintendent
- DOE-ORO Contract Technical Monitor

Conclusion

This objective was met

Field assessment activities were completed on August 11, 2000. This form was updated to indicate that the annual refresher training required by OSHA 1910.157 is currently up to date via a training session for all affected ETMC. employees.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Jim Landmesser Date: 9/26/00	Team Leader: Martin McBride Date: 9/27/00

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FUNCTIONAL AREA	OBJECTIVE:	SME-FP.2
Subject Matter Expert (SME) – Fire Protection	DATE:	September 26, 2000

OBJECTIVE

Within the fire protection area, the planning of work includes an integrated analysis of hazards and development and specification of necessary controls. There is an adequate process for the authorization and control of work and a process for identifying opportunities for feedback and continuous improvement. Within fire protection, line managers are responsible for safety; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria and Discussion of Results

SME-FP.2-1 **Procedures and/or mechanisms for fire protection require adequate planning of individual work items to ensure that hazards are analyzed and controls are identified.**

Discussion of Results – ETMC's operations are commercial automotive repairs, heavy equipment repairs, grass cutting, and fuel dispensing (mobile and fixed gas pumps). These operations present standard industrial hazards, but they are not uncommon. The work control process is not as extensive as would be found in nuclear operations. The knowledge and skill of the workforce (i.e., mechanics, teamsters, and laborers) are used as the work basis, and individual procedures for work efforts are not provided. Housekeeping is maintained per the JCI *Safety and Health Manual*, January 10, 1995, and hot work is performed via a permit process (SPI-12-05-12, February 6, 1992). These are the methods used to control hazards throughout the work effort.

This criterion was met.

SME-FP.2-2 **Procedures and/or mechanisms for fire protection contain clear roles and responsibilities. Fire protection is effectively integrated with line support managers to ensure that line managers are responsible for safety.**

Discussion of Results – The Fire Protection Program is controlled by the ES&H/QA Manager. The use of a monthly "Self-Inspection Checklist" ensures that a cross-section of the ES&H program is reviewed on a monthly basis. This checklist includes fire extinguishers, but it does not address the sprinkler systems or the manual pull stations. These items should be included in the checklist for complete program coverage.

This criterion was met.

SME-FP.2-3 **Procedures and/or mechanisms for fire protection require controls to be implemented, that these controls are effectively integrated, and readiness is confirmed prior to performing work.**

FUNCTIONAL AREA Subject Matter Expert (SME) – Fire Protection	OBJECTIVE: DATE:	SME-FP.2 September 26, 2000

Discussion of Results – The Fire Protection Program requirements are adequately controlled via work activities for maintaining housekeeping and the automatic systems. The repetitive nature of vehicular repairs allows this operation to be safe without extensive procedures for each individual task (e.g., change a tire, add antifreeze, etc.). The maintenance of the fire sprinkler system in the Heavy Equipment Shop has not been performed since March 3, 1998, and it is required on an annual basis. (The annual maintenance was completed August 23, 2000.) This supports MG.11-1-OFI.1.

This criterion was met.

SME-FP.2-4 **Procedures and/or mechanisms for fire protection require that personnel who are assigned to fire protection have a satisfactory level of competence.**

Discussion of Results – All personnel interviewed were knowledgeable about the use of a fire extinguisher and the housekeeping requirements for their work areas. The ES&H/QA Manager is knowledgeable about the Fire Protection Program requirements, and he demonstrates a satisfactory level of competence.

This criterion was met.

SME-FP.2-5 **Procedures and/or mechanisms for fire protection require that within the subject area feedback and continuous improvement results.**

Discussion of Results – The ETMC program for feedback is used for fire protection issues. The personnel interviewed indicated that they feel very comfortable about providing feedback to their superiors. ETMC's safety meetings, as well as the normal interfaces, provide an avenue for feedback and continuos improvement.

This criterion was met.

Record Review

- JCI *Safety and Health Manual*, January 10, 1995
- *ETMC Safety and Health Plan*, December 2, 1997
- "Environmental, Safety and Health Monthly Self-Inspection Checklist," January 14, 1998 (reviewed the checklist filled out on June 27, 2000)
- Job descriptions for the ETMC Maintenance Foreman, ES&H/QA Manager, and Superintendent
- ETMC *Fire Protection Program Manual*, May 31, 1995
- "Johnson Controls Oak Ridge Project Hot work Permit," undated
- *Consolidated Standard/Requirements Identification Document*, Revision 1, July 22, 1997
- "ETMC Request for Materials" form, August 23, 2000

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FUNCTIONAL AREA Subject Matter Expert (SME) – Fire Protection	OBJECTIVE: SME-FP.2 DATE: September 26, 2000

Interviews

- ETMC Laborer
- ETMC Teamster
- ETMC Mechanics (2)
- ETMC ES&H/QA Manager
- ETMC Superintendent
- DOE-ORO Contract Technical Monitor

Observations of Work

- Jump starting a vehicle in the Federal Office Building parking lot, August 3, 2000
- Work on a government vehicle in Light Vehicle Shop, August 7, 2000
- Work on a vehicle in the Heavy Equipment Shop, August 7, 2000

Conclusion

The objective was met.

Field assessment activities were completed on August 11, 2000. This form was updated to indicate that the automatic sprinkler system is currently up to date via a private contract with ETMC.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Jim Landmesser Date: 9/26/00	Team Leader: Martin McBride Date: 9/27/00

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FUNCTIONAL AREA **Subject Matter Expert (SME) – Radiation Protection**	**OBJECTIVE:** **DATE:**	**SME-RAD.1** **August 10, 2000**

OBJECTIVE

ETMC's procedures provide a method to ensure that controls are implemented during preparation for the initiation of work at each level. The procedures ensure that adequate controls are identified to mitigate the identified hazards and the controls are effectively implemented. Contractor procedures provide assurance that controls will remain in effect so long as the hazards are present. (CE I-5, CE I-7, CE I-8)

Criteria and Discussion of Results

SME-RAD.1-1 **ETMC's procedures for individual processes or maintenance actions ensure that, when relevant, radiological controls are implemented prior to commencing work and that these controls remain in effect so long as the hazard is present.**

Discussion of Results:

- Page 3 of the *Memorandum of Understanding between Lockheed Martin Energy Systems and East Tennessee Mechanical Contractors for Radiation Protection Program Services* states that it is ETMC's responsibility to identify potential personnel exposure situations on ETMC's job sites and coordinate with the Lockheed Martin Energy Systems, Inc. (LMES), radiological protection organization for review and guidance. The Memorandum of Understanding also requires ETMC to ensure that all vehicles, heavy equipment, and other types of equipment are properly surveyed and tagged before commencing work.

- Section 401(a) of the *Lockheed Martin Energy Systems 10 CFR 835 Radiation Protection Program* requires documentation of radiological conditions, and verification of the effectiveness of radiological controls.

- The "Washing/Cleaning" section of the *Heavy Equipment and Light Vehicle Shop Procedures* states that prior to washing and cleaning, each light vehicle is checked for radioactivity.

- The "Contamination Control" section of the *Memorandum of Understanding between Lockheed Martin Energy Systems and East Tennessee Mechanical Contractors for Radiation Protection Program Services* requires that subassemblies be surveyed for contamination during dismantlement operations.

This criterion was met.

FUNCTIONAL AREA Subject Matter Expert (SME) – Radiation Protection	OBJECTIVE: DATE:	SME-RAD.1 August 10, 2000

SME-RAD.1-2 **ETMC's procedures provide mechanisms or processes where radiological-related operations can be performed through Memorandums of Agreement.**

Discussion of Results:

- Section 5.2.1 of the *Environmental, Safety and Health Program Plan* states that the Program Manager is responsible for the Radiation Protection Program and may procure client services to perform radiation protection requirements at ETMC.
- Section 5.2.2 states that ETMC will operate under a Memorandum of Agreement using a prime contractor's Radiation Protection Program.
- The scope of work of the *Memorandum of Understanding between Lockheed Martin Energy Systems and East Tennessee Mechanical Contractors for Radiation Protection Program Services* states that the Memorandum of Understanding documents the roles and responsibilities of both ETMC and LMES pursuant to DOE Contract DE-AC0584OR21400 in providing programs and services for ETMC employees.

This criterion was met.

SME-RAD.1-3 **ETMC's mechanisms specify that line management is responsible for ensuring that radiological-related work is performed safely.**

Discussion of Results:

- Section 1.5.2.A.3 of the *Environmental, Safety and Health Program Plan* states that the Program Manager establishes ES&H activity responsibilities for line management.
- Section 1.5.2.D.2 states that it is line management's responsibility to ensure that employees understand and properly follow safety work procedures.
- Page 3 of the *Memorandum of Understanding between Lockheed Martin Energy Systems and East Tennessee Mechanical Contractors for Radiation Protection Program Services* states that it is ETMC's responsibility to implement recommendations provided by the LMES radiological control organization.

This criterion was met.

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FUNCTIONAL AREA Subject Matter Expert (SME) – Radiation Protection	OBJECTIVE: SME-RAD.1 DATE: August 10, 2000

Record Review

- *Memorandum of Understanding between Lockheed Martin Energy Systems and East Tennessee Mechanical Contractors for Radiation Protection Program Services*, March 21, 2000
- *Environmental Safety and Health Plan*, Revision2, December 2, 1997.
- *Heavy Equipment and Light Vehicle Shop Procedures*, December 13, 1999.
- *Radiological Control Organization Monitoring and Survey Results for Building 1916-T2*, May 23, 2000.
- *Radiological Control Organization Monitoring and Survey Results for Building 2005*, January 11, 2000.
- *Lockheed Martin Energy Systems 10 CFR 835 Radiation Protection Program*, June 2000.

Interviews

- ETMC ES&H/QA Manager
- ETMC Acting Foreman, Light Vehicle Shop
- ETMC Heavy Equipment Shop Foreman/Mechanic

Conclusion

The objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Mike Henderson Mike Henderson	Team Leader: Martin McBride Martin McBride
Date: 09-08-00	Date: 9/25/00

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FUNCTIONAL AREA Subject Matter Expert (SME) – Radiation Protection	OBJECTIVE: DATE:	SME-RAD.2 September 25, 2000

OBJECTIVE

Within the radiation protection area, the planning of work includes an integrated analysis of hazards and development and specification of necessary controls. There is an adequate process for the authorization and control of work and a process for identifying opportunities for feedback and continuous improvement. Within radiation protection, line managers are responsible for safety; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria and Discussion of Results

SME-RAD.2-1 **Procedures and/or mechanisms for identifying radiological-related work ensure that tasks with potential radiological-related hazards are identified.**

Discussion of Results:

- Section 1.5.2.C.6 of the *Environmental Safety and Health Program Plan* states that the ES&H Manager coordinates with the Operations Manager to ensure that company procedures for identifying and evaluating workplace hazards are conducted as required.

- Section 1.5.2.B.2 of the *Environmental Safety and Health Program Plan* states that the Operations Manager monitors ES&H performance of subordinates and holds them accountable for their safety responsibilities.

- The *Memorandum of Agreement Between Lockheed Martin Energy Systems and East Tennessee Mechanical Contractors for Radiation Protection Program Services* requires mechanisms that lead to hazards identification, such as radiological training, radiological survey instrumentation and tagging, and identification of those employees who need dosimetry services. Routine radiological surveys are conducted by LMES in Buildings 1916-T2 and 2005. The most recent surveys were reviewed and showed no recordable levels of contamination.

- Section 401(a) of the *Lockheed Martin Energy Systems Radiation Protection Program* requires the identification and control of potential sources of radioactive material.

- A review of the radiological surveillance results for buildings housing ETMC's activities indicated that those facilities are adequately surveyed for radiological contamination and maintained clean.

FUNCTIONAL AREA Subject Matter Expert (SME) – Radiation Protection	OBJECTIVE: DATE:	SME-RAD.2 September 25, 2000

This criterion was met.

SME-RAD.2-2 **Procedures and/or mechanisms exist to ensure that roles and responsibilities for the administration of Memorandums of Agreement are clearly defined and ensure that line managers are responsible for safety.**

Discussion of Results:

- The "Scope of Work" for the *Memorandum of Agreement Between Lockheed Martin Energy Systems and East Tennessee Mechanical Contractors for Radiation Protection Program Services* states that ETMC agrees to accept, implement, and enforce guidance that is necessary to maintain the integrity of the radiological services which ensure the radiological safety of the ETMC workforce. It recognizes that ETMC has ultimate responsibility for the safety of its workplace, including protection from radiological exposure and contamination. It further states that ETMC retains responsibility for ensuring the overall effectiveness of radiological protection of the ETMC workforce.
- Section 5.2.2 of the *Environmental Safety and Health Program Plan* states that ETMC will operate under a Memorandum of Agreement using a prime contractor's Radiation Protection Program.
- Section 1.5.2.D.2 of the *Environmental Safety and Health Program Plan* states that line management ensures that employees understand and properly follow safety work procedures.

This criterion was met.

Record Review

- *Memorandum of Understanding between Lockheed Martin Energy Systems and East Tennessee Mechanical Contractors for Radiation Protection Program Services*, March 21, 2000
- *Environmental Safety and Health Plan*, Revision2, December 2, 1997.
- *Heavy Equipment and Light Vehicle Shop Procedures*, December 13, 1999.
- *Radiological Control Organization Monitoring and Survey Results for Building 1916-T2*, May 23, 2000.
- *Radiological Control Organization Monitoring and Survey Results for Building 2005*, January 11, 2000.
- *Lockheed Martin Energy Systems 10 CFR 835 Radiation Protection Program*, June 2000.

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FUNCTIONAL AREA Subject Matter Expert (SME) – Radiation Protection	OBJECTIVE: SME-RAD.2 DATE: September 25, 2000

Interviews

- ETMC ES&H/QA Manager
- ETMC Acting Foreman, Light Vehicle Shop
- ETMC Heavy Equipment Shop Foreman/Mechanic

Observations of Work

The Heavy Equipment Shop Foreman/Mechanic demonstrated a source check and proper use of the radiological survey instrument.

Conclusion

The objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: Mike Henderson Mike Henderson	Team Leader: Martin McBride Martin McBride
Date: 9-25-00	Date: 9/27/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I Assessment Form

FUNCTIONAL AREA Subject Matter Expert (SME) – Training & Qualification	OBJECTIVE: DATE:	SME-T&Q.1 August 13, 2000

OBJECTIVE

ETMC's procedures provide a method to ensure that controls are implemented during preparation for the initiation of work at each level. The procedures ensure that adequate controls are identified to mitigate the identified hazards and the controls are effectively implemented. Contractor procedures provide assurance that controls will remain in effect so long as the hazards are present. (CE I-5, CE I-7, CE I-8)

Criteria and Discussion of Results

SME-T&Q.1-1 **ETMC's procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect so long as the hazard is present.**

Discussion of Results – ETMC's activities for DOE require training and appropriate qualifications. Some of the T&Q are required as a statutory requirement (i.e., DOT training when transporting hazardous materials, a certification of qualification when certain maintenance functions are performed, Hazardous Waste Operations training, etc.). Some of the T&Q is DOE driven (i.e., various OSHA-related T&Q is derived from the DOE-approved Work Smart Standards set).

ETMC has procedures in place that require appropriate qualification for the work being performed. Controls are in place requiring employees to be trained and qualified in most areas before work is performed, and these controls remain in effect as long as the work is being performed. See the discussion in the SME-FP.1 and SME-ENV.1 forms for examples of discrepancies in this area. The controlling documentation (which requires input, review, and approval) is the ETMC "Work Request Form."

The criterion was met.

SME-T&Q.1-2 **ETMC's procedures for individual disciplines ensure that individual processes or maintenance actions include adequate controls associated with the individual discipline prior to commencing work and that the controls remain in effect so long as the hazard is present.**

Discussion of Results – ETMC's activities for DOE require training and appropriate qualifications. Some of the T&Q for individual disciplines is required as a statutory requirement (i.e., DOT training when transporting hazardous materials and a certification of qualification when maintaining an air braking system). Some of the T&Q is DOE driven (i.e., various OSHA-related T&Q is derived from the DOE-approved Work Smart Standards set).

FUNCTIONAL AREA Subject Matter Expert (SME) – Training & Qualification	OBJECTIVE: SME-T&Q.1 DATE: August 13, 2000

ETMC has in place procedures that require training and appropriate qualifications for individual disciplines, which ensures that the controls are applicable to the work being performed. Controls are in place requiring employees to be trained and qualified before work is performed, and the controls remain in effect as long as the work is being performed. Specific controls related to T&Q are developed and documented in the ETMC "Work Request Form."

The criterion was met.

SME-T&Q.1-3 **ETMC's procedures provide mechanisms or processes for gaining authorization to conduct operations or perform work.**

Discussion of Results – Authorizations, which include specific T&Q, must be gained before work is performed (i.e., the ETMC "Work Request Form," a commercial driver's license to operate a heavy duty motor vehicle over the highways, etc.).

The criterion was met.

SME-T&Q.1-4 **ETMC's mechanisms for the control of work specify that line management is responsible for safety.**

Discussion of Results – ETMC's policy and various procedures specify that line management is responsible for safety. This was verified during interviews with the ETMC Operations Manager and ES&H/QA Manager. The ETMC "Work Request Form" requires line management approval before work begins.

The criterion was met.

SME-T&Q.1-5 **ETMC personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.**

Discussion of Results – An examination of ETMC's procedures and position descriptions in conjunction with employees personnel and training records verify that personnel are competent to perform the assigned responsibilities.

The criterion was met.

Record Review

- *Training Matrix*, December 26, 1996
- ETMC-QAM-3.0, *Training & Qualification Procedure*, Revision 0, December 1, 1999
- *Facility Maintenance Work Request*, Labor Cost Code 01.9700.01.02, February 16, 2000

FUNCTIONAL AREA Subject Matter Expert (SME) – Training & Qualification	OBJECTIVE: SME-T&Q.1 DATE: August 13, 2000

- ETMC position descriptions and resumes for management positions
- Personnel training files of four ETMC employees

Interviews

- ETMC ES&H/QA Manager
- ETMC Operations Manager
- ETMC Truck Drivers, Wrecker Drivers, and Mechanics

Conclusion

The objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: D.T. Stancell Doug Stancell	Team Leader: Martin McBride Martin McBride
Date: 9-12-00	Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Subject Matter Expert (SME) – Training & Qualification	OBJECTIVE: DATE:	SME-T&Q.2 August 10, 2000

OBJECTIVE

Within the training and qualification area, the planning of work includes an integrated analysis of hazards and development and specification of necessary controls. There is an adequate process for the authorization and control of work and a process for identifying opportunities for feedback and continuous improvement. Within training and qualification, line managers are responsible for safety; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria and Discussion of Results

SME-T&Q.2-1 **Procedures and/or mechanisms for training and qualification require adequate planning of individual work items to ensure that hazards are analyzed and controls are identified.**

Discussion of Results – ETMC's activities for DOE require training and appropriate qualifications. Some of the T&Q is required as a statutory requirement (i.e., DOT training when transporting hazardous materials, a certification of qualification when certain maintenance functions are performed, Hazardous Waste Operations training, etc.). Some of the T&Q is DOE driven (i.e., various OSHA-related T&Q is derived from the DOE-approved Work Smart Standards set).

ETMC procedures in place that require appropriate qualification for the work being performed. There are controls in place that require employees to be trained and qualified before work is performed, and the controls remain in effect as long as the work is being performed. The controlling documentation (which requires input, review, and approval) is the ETMC "Work Request Form."

The criterion was met.

SME-T&Q.2-2 **Procedures and/or mechanisms for training and qualification contain clear roles and responsibilities. Training is effectively integrated with line support managers to ensure that line managers are responsible for safety.**

Discussion of Results – ETMC's policy and various procedures specify that line management is responsible for safety. This was verified during interviews with the ETMC Operations Manager and ES&H Manager. The ETMC "Work Request Form" requires line management approval before work begins; thus, it requires management to include and integrate T&Q and other safety requirements in their activities.

The criterion was met.

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Subject Matter Expert (SME) – Training & Qualification	OBJECTIVE: DATE:	SME-T&Q.2 August 10, 2000

SME-T&Q.2-3 **Procedures and/or mechanisms for training and qualification require controls to be implemented, that these controls are effectively integrated, and readiness is confirmed prior to performing work.**

Discussion of Results – Authorizations, which include specific T&Q, must be gained before work is performed (i.e., ETMC "Work Request Form," a commercial driver's license to operate a heavy duty motor vehicle over the highways, etc.).

The criterion was met.

SME-T&Q.2-4 **Procedures and/or mechanisms for training and qualification require that personnel who are assigned to the subject area have a satisfactory level of competence.**

Discussion of Results – An examination of ETMC procedures and position descriptions in conjunction with employees personnel and training records verified that personnel are competent to perform their assigned responsibilities.

The criterion was met.

SME-T&Q.2-5 **Procedures and/or mechanisms for training and qualification require that within the subject area feedback and continuous improvement results.**

Discussion of Results – ETMC has T&Q mechanisms in place. Worker and management oral feedback is present. ETMC complies with the various DOE and outside regulatory reporting requirements, which also provides feed back.

The criterion was met.

Record Review

- *Training Matrix*, December 26, 1996
- ETMC-QAM-3.0, *Training & Qualification Procedure*, Revision 0, December 1, 1999
- *Facility Maintenance Work Request*, Labor Cost Code 01.9700.01.02, February 16, 2000
- ETMC position description and resumes for management positions
- Personnel training files of four ETMC employees

Interviews

- ETMC ES&H/QA Manager
- ETMC Operations Manager
- ETMC Truck Drivers, Wrecker Drivers, and Mechanics

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Subject Matter Expert (SME) – Training & Qualification	OBJECTIVE: SME-T&Q.2 DATE: August 10, 2000

Conclusion

The objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: D. T. Stancell Doug Stancell	Team Leader: Martin McBride Martin McBride
Date: 9-12-00	Date: 9/27/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I Assessment Form

FUNCTIONAL AREA Subject Matter Expert (SME) – Transportation	OBJECTIVE: DATE:	SME-TRS.1 August 13, 2000

OBJECTIVE

ETMC's procedures provide a method to ensure that controls are implemented during preparation for the initiation of work at each level. The procedures ensure that adequate controls are identified to mitigate the identified hazards and the controls are effectively implemented. Contractor procedures provide assurance that controls will remain in effect so long as the hazards are present. (CE I-5, CE I-7, CE I-8)

Criteria and Discussion of Results

SME-TRS.1-1

ETMC's procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect so long as the hazard is present.

Discussion of Results – Procedures and/or mechanisms are in place and used by ETMC personnel to ensure that the hazards associated with work throughout the facility have been identified and analyzed. The resulting documentation is defined, complete, and meets DOE-ORO's expectations. The execution of these mechanisms ensures that personnel responsible for the analysis of ES&H concerns are integrated with those assigned to analyze the hazards for the facility or activity. These mechanisms ensure direction and approval from line management and integration of the requirements. The controlling mechanism is the ETMC "Work Request Form" and the various approval requirements associated with it.

The criterion was met.

SME-TRS.1-2

ETMC's procedures for individual disciplines ensure that individual processes or maintenance actions include adequate controls associated with the individual discipline prior to commencing work and that the controls remain in effect so long as the hazard is present.

Discussion of Results – Procedures and/or mechanisms are in place and used by ETMC personnel that describe the interfaces, roles, and responsibilities of those personnel who identify and analyze the hazards of the scope of work. Personnel assigned to accomplish those roles are competent to execute those responsibilities.

SME-TRS.1-3

ETMC's procedures provide mechanisms or processes for gaining authorization to conduct operations or perform work.

Discussion of Results – ETMC must comply with DOT and Tennessee Department of Safety vehicle and hazardous materials requirements, since these are regulatory statutes. The contractor is substantially in compliance. The contractor conforms to the controls as specified in these regulatory requirements.

FUNCTIONAL AREA Subject Matter Expert (SME) – Transportation	OBJECTIVE: DATE:	SME-TRS.1 August 13, 2000

The criterion was met.

SME-TRS.1-4 **ETMC's mechanisms for the control of work specify that line management is responsible for safety.**

Discussion of Results – ETMC must comply with the DOT and Tennessee Department of Safety vehicle and hazardous materials requirements, since these are regulatory statutes. The contractor is substantially in compliance. The contractor conforms to the personnel competency requirements specified in these regulatory requirements.

The criterion was met.

SME-TRS.1-5 **ETMC personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.**

Discussion of Results – ETMC must comply with the DOT and Tennessee Department of Safety vehicle and hazardous materials requirements, since these are regulatory statutes. The contractor is substantially in compliance. The contractor conforms to the accident and incident requirements specified in these regulatory requirements. This also provides feedback that is comparable with private industry.

Record Review

- ETMC procedures for the shops, training, etc., with various dates and revisions
- ETMC driver qualification files
- ETMC driver physical certification files
- ETMC driver training files
- ETMC vehicle inspection files
- ETMC mechanic qualification files
- ETMC mechanic inspection training & qualification files
- ETMC mechanic air brake training & qualification files
- ETMC cargo tank DOT qualification documents

Interviews

- ETMC ES&H/QA Manager
- ETMC Operations Manager

Conclusion

This objective was met.

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase I Assessment Form

FUNCTIONAL AREA Subject Matter Expert (SME) – Transportation	OBJECTIVE: SME-TRS.1 DATE: August 13, 2000

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: D. J. Stancell Doug Stancell	Team Leader: Martin McBride Martin McBride
Date: 9-12-00	Date: 9/25/00

ISMS VERIFICATION ASSESSMENT FORM
Combined Phase I and II Verification of East Tennessee Mechanical Contractors, Inc.
Phase II Assessment Form

FUNCTIONAL AREA Subject Matter Expert (SME) – Transportation	OBJECTIVE: DATE:	SME-TRS.2 August 13, 2000

OBJECTIVE

Within the transportation area, the planning of work includes an integrated analysis of hazards and development and specification of necessary controls. There is an adequate process for the authorization and control of work and a process for identifying opportunities for feedback and continuous improvement. Within the transportation area, line managers are responsible for safety; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria and Discussion of Results

SME-TRS.2-1 **Procedures and/or mechanisms for transportation require adequate planning of individual work items to ensure that hazards are analyzed and controls are identified.**

Discussion of Results - Procedures and/or mechanisms are in place and used by ETMC personnel to ensure that the hazards associated with the work throughout the facility have been identified and analyzed. The resulting documentation is defined, complete, and meets DOE-ORO's expectations. The execution of these mechanisms ensures that personnel responsible for the analysis of ES&H concerns are integrated with those assigned to analyze the hazards for the facility or activity. These mechanisms ensure direction and approval from line management and integration of the requirements. The controlling mechanism is the ETMC "Work Request Form" and the various approval requirements associated with it.

The criterion was met.

SME-TRS.2-2 **Procedures and/or mechanisms for transportation contain clear roles and responsibilities. Transportation is effectively integrated with line support managers to ensure that line managers are responsible for safety.**

Discussion of Results – Procedures and/or mechanisms are in place and used by ETMC personnel that describe the interfaces, roles, and responsibilities of those personnel who identify and analyze the hazards of the scope of work. Personnel assigned to accomplish those roles are competent to execute those responsibilities.

The criterion was met.

SME-TRS.2-3 **Procedures and/or mechanisms for transportation require controls to be implemented, that these controls are effectively integrated, and readiness is confirmed prior to performing work.**

FUNCTIONAL AREA Subject Matter Expert (SME) – Transportation	OBJECTIVE: DATE:	SME-TRS.2 August 13, 2000

Discussion of Results – ETMC must comply with DOT and Tennessee Department of Safety vehicle and hazardous materials requirements, since these are regulatory statutes. The contractor is substantially in compliance. The contractor conforms to the controls as specified in these regulatory requirements.

The criterion was met.

SME-TRS.2-4 **Procedures and/or mechanisms for transportation require that personnel who are assigned to the subject area have a satisfactory level of competence.**

Discussion of Results – ETMC must comply with the DOT and Tennessee Department of Safety vehicle and hazardous materials requirements, since these are regulatory statutes. The contractor is substantially in compliance. The contractor conforms to the personnel competency requirements specified in these regulatory requirements.

The criterion was met.

SME-TRS.2-5 **Procedures and/or mechanisms for transportation require that within the subject area feedback and continuous improvement results.**

Discussion of Results – ETMC must comply with the DOT and Tennessee Department of Safety vehicle and hazardous materials requirements, since these are regulatory statutes. The contractor is substantially in compliance. The contractor conforms to the accident and incident requirements specified in these regulatory requirements. This also provides feedback that is comparable with private industry.

Record Review

- ETMC procedures for shop operation, training, etc., with various dates and revisions
- ETMC driver qualification files
- ETMC driver physical certification files
- ETMC driver training files
- ETMC vehicle inspection files
- ETMC mechanic qualification files
- ETMC mechanic inspection training & qualification files
- ETMC mechanic air brake training & qualification files
- ETMC cargo tank DOT qualification documents

Interviews

- ETMC ES&H/QA Manager
- ETMC Operations Manager

FUNCTIONAL AREA Subject Matter Expert (SME) – Transportation	OBJECTIVE: SME-TRS.2 DATE: August 13, 2000

- ETMC Truck Drivers (2)
- ETMC Heavy Equipment Shop Foreman

Observations of Work

- Operation of gasoline motor vehicle cargo tank(s) on August 8, 2000
- Vehicle and cargo tank Inspection of the two gasoline cargo tanks operated by ETMC

Conclusion

This objective was met.

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: D. J. Stancell Doug Stancell	Team Leader: Martin McBride Martin McBride
Date: 9-12-00	Date: 9/25/00

APPENDIX C: CLOSURE FORMS FOR KEY OPPORTUNITIES FOR IMPROVEMENT

ISMS OFI Closure Validation Form

Please complete the following information for each Opportunity for Improvement being validated for closure for the East Tennessee Mechanical Contractors (ETMC) Phase I/II Integrated Safety Management System Verification conducted on August 7-11, 2000.

Date: 9/25/00

Validators Name (print): Teresa Robbins

Interim Opportunity for Improvement (number and description):

HAZ.3-3-OFI.1 The AMUES should develop a mechanism that provides for a detailed description of COR responsibilities in the development and implementation of an ES&H oversight program that addresses and supports the five key elements of ISM.

Is this an ETMC or DOE item? ETMC (DOE) (circle one)

Briefly Describe the Actions Taken to Validate Closure (documents reviewed, work observed, interviews conducted, etc.)

On September 20, 2000, the Assistant Manager for Uranium and Engineering Services (AMUES) approved *AMUES Management Procedures for Contracting Officer Representatives (COR),* AMUESP-01-08, Rev. 0. AMUESP-01-08 specifies the responsibilities of CORs and in Section F, *Integrated Safety Management System*, delineates expectations for how CORs will provide oversight of their contractor's ISMS program consistent with DOE P 450.5. Through interviews and email correspondence with the ETMC COR, the COR plans to conduct semi-annual reviews of ES&H through walkthroughs and assessments. The COR also plans to conduct quarterly walkthroughs and assessments with matrix support from the Environment, Safety, Health and Emergency Management organization. AMUESP-01-08 has only recently been approved and is being implemented by the ETMC COR. Under the previous award fee contract with ETMC, annual reviews were performed to support award fee determinations. For the existing time and material ETMC contract, AMUESP-01–08 provides the foundation for DOE ES&H oversight of ETMC work.

AMUESP-01-08, Section F.5, specifically requires oversight of the contractor job safety assessments (JSAs) through observation of worker involvement, timeliness and effectiveness of JSAs. In addition, feedback and continuance improvement will be implemented through the approved performance measures and the quarterly and semi-annual walkthroughs and assessments.

Based on the issuance of AMUESP-01-08, this OFI is closed.

This Opportunity for Improvement is CLOSED. **Yes** **No** **(circle one)**

Validator's Signature: Teresa Robbins

If you answered No, briefly describe why.

Please return the completed form to Karen Brown, Room 2222-1, FOB

ISMS OFI Closure Validation Form

Please complete the following information for each Opportunity for Improvement being validated for closure for the East Tennessee Mechanical Contractors (ETMC) Phase I/II Integrated Safety Management System Verification conducted on August 7-11, 2000.

Date: 9/25/00

Validators Name (print): Teresa Robbins

Interim Opportunity for Improvement (number and description):

MG.1-4-OFI.1 The UES organization, in negotiation with ETMC, must develop and implement performance measures for monitoring and assessing contractor performance in ES&H areas as required by the ISM DEAR clause.

Is this an ETMC or DOE item? ETMC (DOE) (circle one)

Briefly Describe the Actions Taken to Validate Closure (documents reviewed, work observed, interviews conducted, etc.)

On September 20, 2000, the Contracting Officer's Representative for ETMC issued proposed performance measures for the ETMC contract. The performance measures were accepted by ETMC and signed on September 20, 2000. The DOE Contracting Officer has also approved the performance measures making them contractual obligations. The ETMC performance measures are appropriately tailored to the scope of the ETMC contract and will provide DOE with a significant tool to monitor and measure ETMC's performance in protecting the environment, and safety and health of the workers while performing work.

This OFI is closed based on the approval of the ETMC performance measures.

This Opportunity for Improvement is CLOSED. (Yes) No (circle one)

Validator's Signature: Teresa Robbins

If you answered No, briefly describe why.

Please return the completed form to Karen Brown, Room 2222-1, FOB

ISMS OFI Closure Validation Form

Please complete the following information for each Opportunity for Improvement being validated for closure for the East Tennessee Mechanical Contractors (ETMC) Phase I/II Integrated Safety Management System Verification conducted on August 7-11, 2000.

Date: 9/25/00

Validators Name (print): Teresa Robbins

Interim Opportunity for Improvement (number and description):

MG.4-4-OFI.2 The UES organization should develop procedures that define how the COR will perform his/her responsibilities for ensuring the contractor's ISMS is implemented.

Is this an ETMC or DOE item? ETMC DOE (circle one)

Briefly Describe the Actions Taken to Validate Closure (documents reviewed, work observed, interviews conducted, etc.)

On September 20, 2000, the Assistant Manager for Uranium and Engineering Services (AMUES) approved *AMUES Management Procedures for Contracting Officer Representatives (COR),* AMUESP-01-08, Rev. 0. AMUESP-01-08 specifies the responsibilities of CORs and in Section F, *Integrated Safety Management System*, delineates expectations for how CORs will provide oversight of their contractor's ISMS program consistent with DOE P 450.5. Through interviews and email correspondence with the ETMC COR, the COR plans to conduct semi-annual reviews of ES&H through walkthroughs and assessments. The COR also plans to conduct quarterly walkthroughs and assessments with matrix support from the Environment, Safety, Health and Emergency Management organization. AMUESP-01-08 has only recently been approved and is being implemented by the ETMC COR. Under the previous award fee contract with ETMC, annual reviews were performed to support award fee determinations. For the existing time and material ETMC contract, AMUESP-01–08 provides the foundation for DOE ES&H oversight of ETMC work.

Based on the issuance of AMUESP-01-08, this OFI is closed.

This Opportunity for Improvement is CLOSED. Yes No (circle one)

Validator's Signature: Teresa Robbins

If you answered No, briefly describe why.

Please return the completed form to Karen Brown, Room 2222-1, FOB

ISMS OFI Closure Validation Form

Please complete the following information for each Opportunity for Improvement being validated for closure for the East Tennessee Mechanical Contractors (ETMC) Phase I/II Integrated Safety Management System Verification conducted on August 7-11, 2000.

Date: 9/12/00

Validators Name (print): Teresa Robbins

Interim Opportunity for Improvement (number and description):

MG.6-3-OFI.1 The ETMC ISMS program description should be revised to require the description to be maintained current and to provide the annual update information. A schedule should be provided to the COR for completion of the remaining open items in the "Gap Analysis."

Is this an ETMC or DOE item? (ETMC) **DOE (circle one)**

Briefly Describe the Actions Taken to Validate Closure (documents reviewed, work observed, interviews conducted, etc.)

Reviewed ISMS program description revised September 1, 2000 which includes a requirement to update the plan annually. The ISMS program description also includes a revision page including signature spaces for both ETMC and DOE. At the time of this review DOE has not signed the revised ISMS program description. This is considered acceptable as the ISMS verification is not complete. In addition, the revised Gap analysis in the ISMS program description identifies a schedule for completion for the remaining four actions.

Based on the growing maturity of the ETMC ISMS program and the identified gaps being judged to be more of enhancements to the existing program, this OFI is considered closed.

This Opportunity for Improvement is CLOSED. (Yes) **No (circle one)**

Validator's Signature: Teresa Robbins

If you answered No, briefly describe why.

ISMS OFI Closure Validation Form

Please complete the following information for each Opportunity for Improvement being validated for closure for the East Tennessee Mechanical Contractors (ETMC) Phase I/II Integrated Safety Management System Verification conducted on August 7-11, 2000.

Date: 9/12/00

Validators Name (print): Teresa Robbins

Interim Opportunity for Improvement (number and description):

MG.11-1-OFI.1 ETMC should perform a review of existing procedures and standards to determine whether procedures are still being implemented and requirements are still being met, considering recent changes in the contract scope.

Is this an ETMC or DOE item? (ETMC) **DOE (circle one)**

Briefly Describe the Actions Taken to Validate Closure (documents reviewed, work observed, interviews conducted, etc.)

Reviewed status sheet for ETMC procedure reviews and revisions. ETMC has completed a review of the Vehicle/Equipment Shop Manual and the Fleet Management Plan to verify procedures are being implemented and that the procedures ensure compliance with DOE and Federal Regulations. A review of the ES&H Manual procedures is ongoing. This review encompasses taking 16 books and manuals and eliminating redundant and obsolete procedures and incorporating them into one manual while ensuring compliance is maintained with DOE and Federal Regulations.

Discussed the review of procedures with the ETMC ES&H Manager via telephone interview. No new deficiencies were identified through the review. Based on completion of the review of the Vehicle/Equipment Shop Manual and the Fleet Management Plan, this OFI is judged to be closed and actions completed.

This Opportunity for Improvement is CLOSED (Yes) **No (circle one)**

Validator's Signature: Teresa Robbins

If you answered No, briefly describe why.

ISMS OFI Closure Validation Form

Please complete the following information for each Opportunity for Improvement being validated for closure for the East Tennessee Mechanical Contractors (ETMC) Phase I/II Integrated Safety Management System Verification conducted on August 7-11, 2000.

Date: September 8, 2000

Validators Name (print): Richard Martin

Interim Opportunity for Improvement (number and description):

SME-ENV.1-1-OFI.1 ETMC's procedures identify environmental compliance requirements, but they do not specify or discuss documentation that would ensure that the requirements are flowing down to the working level. ETMC should revise its procedures to delineate the processes or mechanisms to be used to ensure that environmental compliance requirements are being met.

SME-ENV.1-3-OFI.2 Worker knowledge of environmental compliance requirements is critical to ensure compliance. Work should not be authorized until it can be verified that workers possess the necessary environmental compliance knowledge. Current ETMC procedures do not specify or discuss the documentation required to verify a worker's environmental compliance knowledge or to authorize work. ETMC should revise procedures to include a requirement to document the worker's readiness and ETMC management's authorization to perform work.

SME-ENV.2-4-OFI.1 Although a compliance inspection was not performed as a part of this verification, two compliance issues were noted. ETMC should evaluate alternative strategies to monitor environmental compliance to ensure that personnel are properly implementing the environmental compliance requirements.

Is this an ETMC or DOE item? (ETMC) **DOE (circle one)**

Briefly Describe the Actions Taken to Validate Closure (documents reviewed, work observed, interviews conducted, etc.)

Reviewed August 31, 2000 response package. Sufficient information was provided to address them OFIs above, thus closing these issues.

This Opportunity for Improvement is CLOSED. (Yes) **No (circle one)**

Validator's Signature: 

If you answered No, briefly describe why.

Please return the completed form to Karen Brown, Room 2222-1, FOB